Super Good Cents

Market Progress Evaluation Report, No. 4

prepared by

Gary Smith

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NORTHWEST ENERGY EFFICIENCY ALLIANCE
www.nwalliance.org

529 SW Third Avenue, Suite 600
Portland, Oregon 97204
telephone: 503.827.8416
fax: 503.827.8437

SUPER GOOD CENTS® MANUFACTURED HOUSING / ENERGY STAR® TRANSITION PROGRAM

MARKET PROGRESS EVALUATION REPORT

Final Report

Funded By:

NORTHWEST ENERGY EFFICIENCY ALLIANCE
www.nwalliance.org

Prepared For:

Karen Horkitz
The Northwest Energy Efficiency Alliance

Prepared By:

Gary Smith
Gary Smith
13715 SW Otter Lane
Beaverton, OR 97008
503-590-4609

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This report is the final Market Progress Evaluation Report on the Northwest Energy Efficiency Alliance's *Super Good Cents® / ENERGY STAR® Program*, prepared by Gary Smith under contract to the Alliance.

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EXECUTIVE SUMMARY

The Northwest Energy Efficiency Alliance (the Alliance) is a non-profit corporation supported by electric utilities, public benefits administrators, state governments, public interest groups, and energy efficiency industry representatives. These entities work together to make affordable, energy-efficient products and services available in the marketplace.

This report is the final of five *Market Progress Evaluation Reports* to assess the progress of the Alliance's *Super Good Cents® Manufactured Housing / ENERGY STAR® Program* and its impact on the market.

The *Super Good Cents Manufactured Housing* program has been one of the Northwest's longest lasting and most resilient energy efficiency efforts of the past twenty years. This report presents the program and market developments beginning in July 2001, when the Alliance terminated the effort to create a self-sustaining market for the *Super Good Cents (SGC) Manufactured Housing* program and rolled over a portion of the unspent dollars to transition support for SGC to local utilities in the region. It documents program activities and market progress for the initial period of the Transition Program, which ran through July 2002, and also reports on progress during the Transition Extension which ran from July 2002 – when the industry began its transition from SGC branding to the ENERGY STAR label – through the end of 2003.

To complete the evaluation, the following activities were conducted:

+ **Data Analysis**: Program data from various sources were examined, including Super Good Cents (SGC) and Natural Choice™ (NC) production data, ENERGY STAR (ES) home data reported to the Environmental Protection Agency (EPA), and Conservation and Renewables Discount (C&RD) Incentive data from the Bonneville Power Administration.

+ **Stakeholder Interviews:** Interviews were completed with representatives from the four state energy offices in the Northwest, the Northwest Power and Conservation Council, and Alliance staff and its program delivery contractor.

Program Objectives and Progress Indicators

The original goal of the Transition Program was to ensure local utility incentives be directed toward the sale and purchase of SGC manufactured housing. The objectives were to: 1) increase sales of SGC homes; and 2) transition from the *Super Good Cents Manufactured Housing* program to long-term relationships between utilities and the manufactured housing industry by providing utility and manufacturer coordination and marketing support. In July 2002, the Alliance expanded the Transition Program's objectives to include facilitating utility and industry stakeholder input into the development of the Alliance's *Residential Sector Initiative* (RSI), and coordinating with utilities and manufacturers to assist in the industry transition to ENERGY STAR from the SGC brand.

The staff recommendation for the Transition Program extension specified three indicators of success to measure program performance and market progress:

1. **Market Share**: Maintain share for SGC/NC at 60% or higher (primary indicator).

2. **Utility Support**: Recruit a minimum of ten additional utilities offering incentives via public purpose funds and C&RD credits (secondary indicator).

3. **Manufacturer Support**: Full participation by the manufactured housing industry (secondary indicator).

This MPER reports on those three progress indicators, as well as progress on coordinating the marketing transition to ENERGY STAR branding.

Transition Program Activities

In 2001, as its SGC Venture was winding down, the Alliance worked to develop a new strategy, one that effectively leveraged utility support for SGC during the apex of the region's energy crisis. To accomplish this, the Alliance contracted with Evergreen Consulting Group, LLC (Evergreen) to provide outreach to utilities and generate interest in providing incentives and marketing support for SGC manufactured housing. Utility incentives had just become available through Bonneville's C&RD

program and Evergreen's goal was to recruit utilities to offer C&RD-based incentives and promote their use for resource acquisition purposes.

Evergreen's recruitment efforts took various forms and covered all four states in the Northwest. Most of the utilities in the region were contacted within the first several months of outreach efforts. Evergreen supplied utilities with a special marketing kit that the Alliance had developed to promote SGC under its *Amazing* campaign, held toward the end of the SGC Venture. The other main activity was communication support and coordination of information between all stakeholder parties, including utilities, manufacturers, state energy offices, and dealers. This communication was performed in-person at meetings and conferences, on conference calls, or via e-mail updates sent regularly to groups on two different lists (one for manufacturers and retailers, and one for utilities and stakeholders).

Evergreen provided other coordination services, including several manufacturer and dealer incentive training sessions, annual home show support in each state, and at least five manufacturer plant tours for stakeholders. Evergreen packaged and shared draft rebate forms and other customer communication pieces about the program with the various utilities. Monthly conference calls between Evergreen and the state energy offices to coordinate utility outreach and other efforts occurred regularly for the duration of the Transition Program.

Public utilities responded in large numbers to the opportunity to support SGC manufactured housing. After one year of the program (July 2001 to June 2002), 52 utilities were on board and offered Bonneville's C&RD or *Conservation Augmentation* (Con-Aug) *Incentives* for SGC. At that time, the Alliance decided to extend the transition program through 2003 in order to maintain the momentum gained in the market from July 2001 to July 2002, and to facilitate the manufacturers' and utilities' transition to ENERGY STAR branding.

During the extension period, Evergreen re-contacted every utility in the region, and either confirmed participation, or determined interest in supporting the program. This endeavor pushed the number of utilities signed-on to over 60, where it has remained for the past year. A key accomplishment was adding a number of large utilities (including one investor-owned) and the Energy Trust of Oregon, Inc. Although the outreach effort has largely concluded, on-going coordination with stakeholders continues.

As a result of Evergreen's approach, use of utility C&RD incentives to promote SGC homes grew consistently for three years, making a significant impact on the market. For FY-2003, 688 *Super Good Cents* C&RD incentives were processed, representing 20% of the SGC market, or about 10% of market share compared against total production.

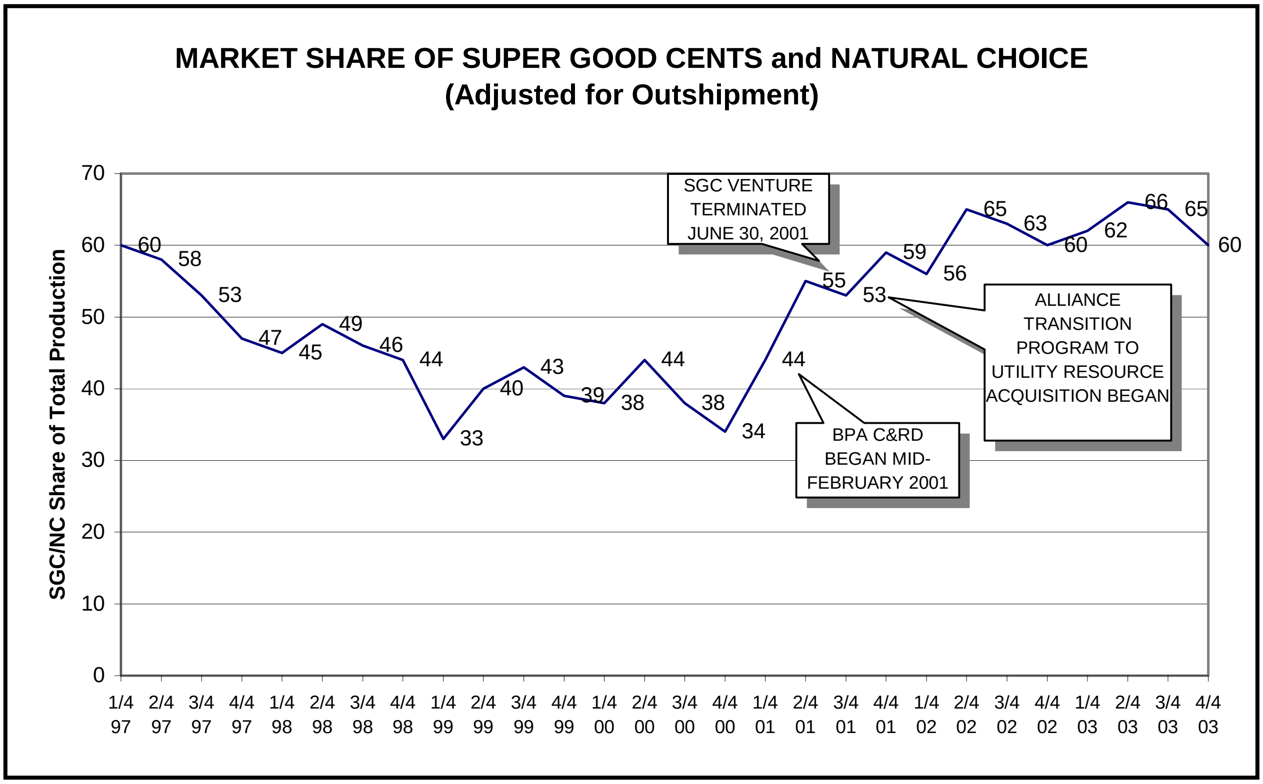
What is unclear is why more of these incentives were not used to purchase SGC homes. In a program that reached over 40% of the utilities, representing over half the population base of the region, it is difficult to understand why the incentive is used only 20% of the time. Reasons for this, cited by stakeholders, seem to point to the manufactured housing dealerships, where staff turnover and lack of training are barriers to higher awareness and use of the incentive. This does point out an area of weakness and challenge for the SGC program.

Accomplishments

Market Share

Regional market share of Super Good Cents/Natural Choice manufactured housing attained the primary progress indicator of maintaining 60% or higher for the final seven quarters of the program (*see Figure ES-1).* However, prior to the launch of the Transition Program, the market share of SGC/NC had already rebounded to 55%, due largely to the industry's response to the market opportunity presented by the energy crisis during the first two quarters of 2001. The Transition Program's activities, including C&RD incentives, were important in nudging SGC market share over 60%, and maintaining it at that level throughout the program.

Figure ES- 1

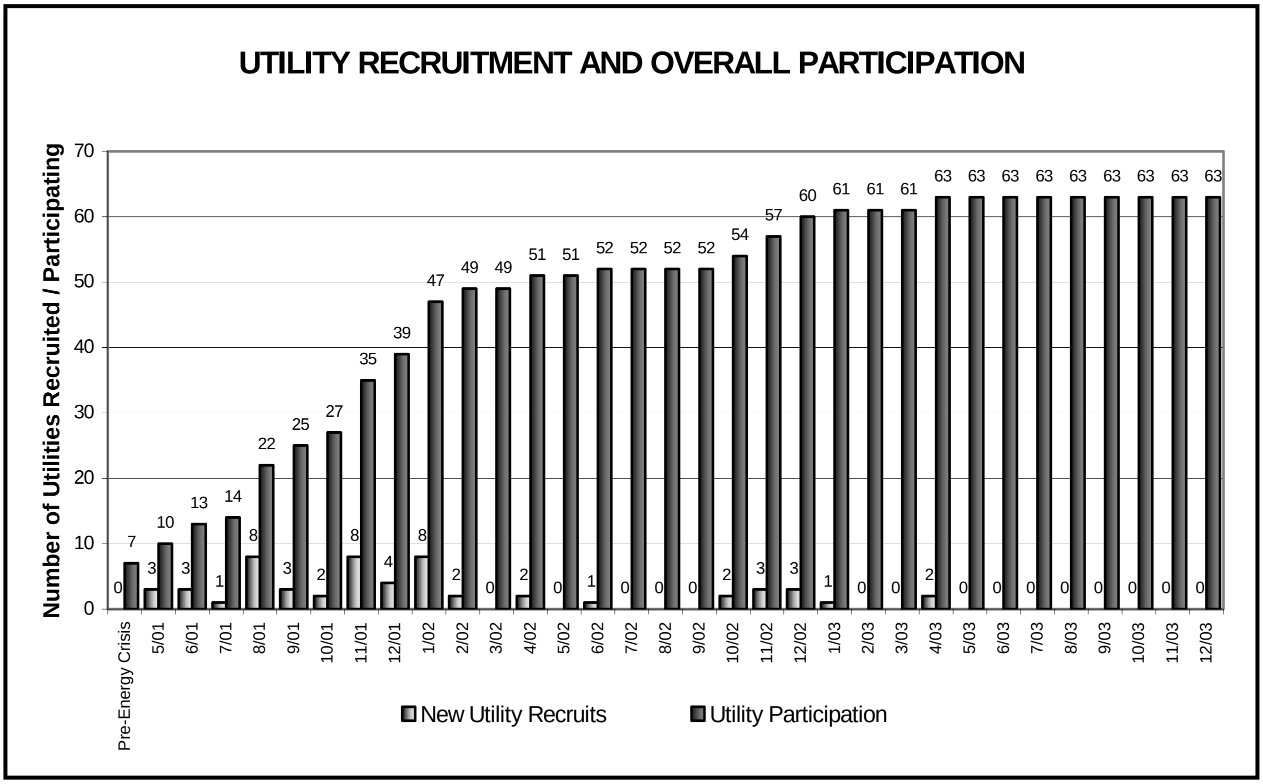


Source: ODOE Quarterly NEEM Production Report

Utility Support

By the end of the transition period, most of the major public and investor-owned utilities were on board. From a beginning of 13 participating utilities in July 2001, by program end in December 2003, 63 had signed on to participate and support the SGC/NC program (*see Table ES-2*). The majority of these utilities enrolled in the first six months after Bonneville's C&RD credits became available, and Evergreen recruited an additional eleven new utilities from July 2002 to December 2003, exceeding the program progress indicator of ten that was established in July 2002.

Figure ES- 2



Source: SGC Manufactured Homes Utility Support and Participation Reports; Evergreen Consulting Monthly Status Reports

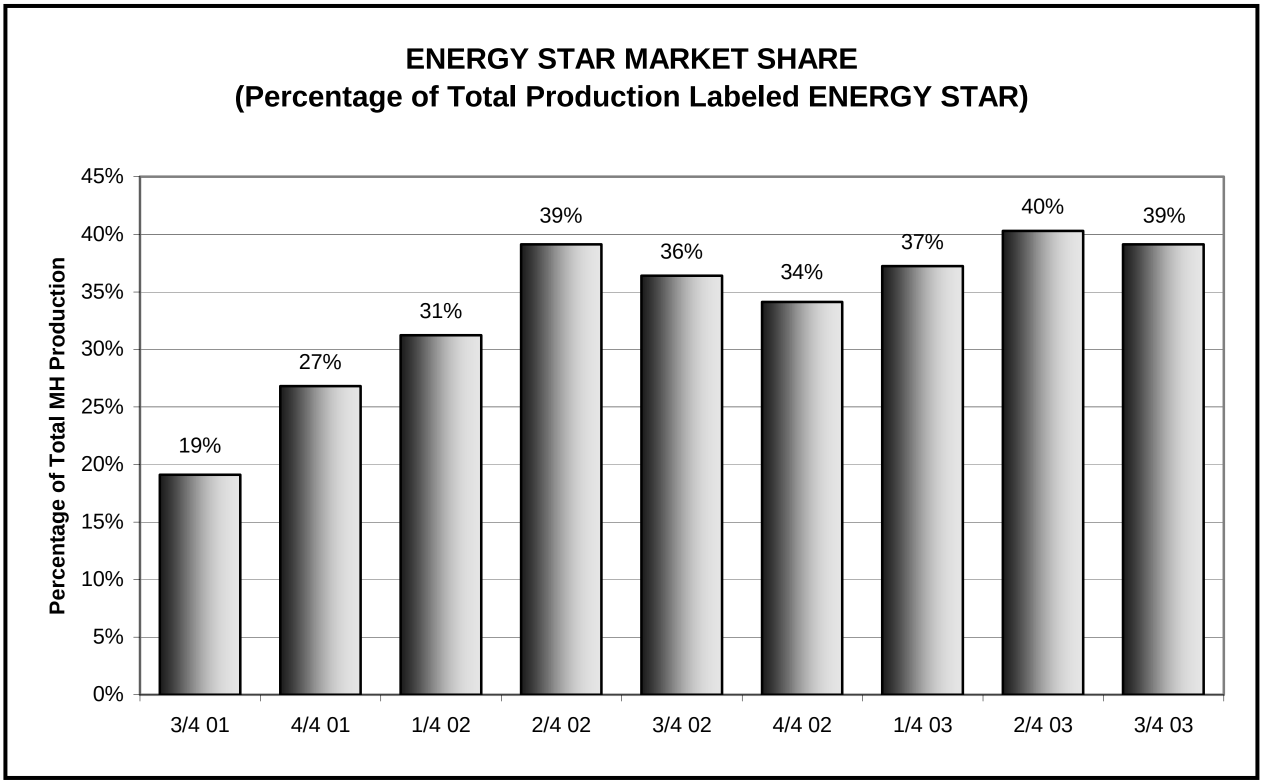
Manufacturer Support

The Transition Program benefited from the full support of the manufactured housing industry. For the duration of program, all eighteen manufacturing plants in the Northwest paid fees to the state energy offices' Northwest Energy Efficient Manufactured (NEEM™) program for SGC certifications and quality assurance (fulfilling the third progress indicator). This support enabled Evergreen to be more effective at promoting SGC to utilities in all areas of the region and to achieve the objectives for the Transition Program. However, this indicator is more of a reflection of the work done and success achieved by the NEEM program, rather than an accomplishment of the Transition Program.

Transition to Energy Star

Manufacturers co-brand and label some SGC/NC homes as ENERGY STAR homes through the *Northwest Energy Efficient Manufactured Home Program*. Although the Alliance and its NEEM partners received EPA's approval for an ENERGY STAR specification for the Northwest in 1999 that was equivalent to the SGC requirements (but with a heat pump requirement for homes sited east of the Cascades), it was not until mid-2001 before issues were resolved and co-branding could be implemented. The process (administered and facilitated through the state energy offices under the NEEM program) has been working, and all the manufacturers currently participate as ENERGY STAR Partners to co-brand homes. The result of this effort has produced a growth of ENERGY STAR market share from 19% of total production to over 35% for five of the last six quarters for which data is available (*see Table ES-3*). The Alliance, working with the NEEM program and the utilities, assisted co-branding efforts by funding development of marketing materials which incorporate the ENERGY STAR brand and logo.

Figure ES-3



Source: WSU Energy Program ENERGY STAR Data and ODOE NEEM Production Data

The Alliance supported the co-branding strategy for several years. However, as consumer recognition of ENERGY STAR was beginning to grow, the Alliance became more interested in consolidating its programs under one single brand to improve and simplify its marketing messages. As a result, several initial elements of a strategy to move manufactured housing from Super Good Cents/Natural Choice to ENERGY STAR were identified, including development of a utility marketing transition plan and modification of the marketing kit to include ENERGY STAR marketing information. A transition strategy was reviewed with NEEM team members at the 2003 annual NEEM meeting. Ultimately, before much progress was made, the effort was pulled when the Alliance found it was unable to get the interest and support of the manufacturers, thus stalling its attempt to transition the market to a single regional brand for manufactured housing.

Subsequent efforts by the NEEM program to determine manufacturer interest in shifting to a single brand under the ENERGY STAR label found mixed results. While the larger manufacturers tended to support ENERGY STAR, overall the manufacturers preferred to keep the program brand-neutral, while retaining the SGC thermal shell orientation. There was interest in creating a Northwest identity without a label, due to the belief of some that the labeling concept had become a headache (too many different brands to manage). Although there was no consensus in the group, it was clear that SGC should not be dropped until a stable industry-accepted alternative was established.

Challenges

Branding issues associated with energy-efficient manufactured housing in the Northwest have reached a critical transition point. Two major elements are set to change at the end of 2004: the expiration of the license to the Super Good Cents brand and logo, and the ENERGY STAR specification revision and use of its brand. Complicating the ENERGY STAR specification revision is EPA's inclination not to offer ENERGY STAR certification for electric-resistance heated homes. The NEEM program, Northwest Power and Conservation Council, utilities, and the Alliance are currently preparing for negotiations with the EPA concerning the resolution of this issue.

If there is no resolution with the EPA regarding an electric-resistance path for ENERGY STAR manufactured housing, the bulk of the region's production would no longer be eligible for ENERGY STAR labeling. This development would compromise the region's ability to unite manufactured housing energy efficiency programs under a single brand. In this case, ENERGY STAR branding would be restricted to gas-heated Natural Choice homes and SGC heat-pump homes, which presently account for less than 20% of total manufactured homes in the Pacific Northwest.

Should EPA agree to retain an electric-resistance path for manufactured homes, the case for ENERGY STAR branding would be strengthened and all options would remain with the manufacturers, should they want to either continue or drop co-branding, or retain one brand over the other. Manufacturers are clear on the point that SGC branding should not be dropped until a stable, industry-accepted alternative is established.

Recommendations

The Alliance has already played a significant role in the development of the energy-efficient manufactured housing market in the region. The current negotiation with EPA presents an opportunity for the Alliance to continue its efforts in this market. The following steps should also be considered:

1. The Alliance should support a solution that would allow unified ENERGY STAR branding of new homes for both site-built and manufactured housing, and should work to align elements of the site-built ENERGY STAR Homes Northwest BOP specification with a new ENERGY STAR manufactured housing specification.

2. The Alliance should continue to provide facilitation and coordination assistance to the NEEM negotiating team, utilities, and manufacturers, as they work through the negotiation process with the EPA on a new ENERGY STAR specification for manufactured housing. The Alliance should ensure coordination with stakeholders to determine their level of interest and buy-in. Once a new ENERGY STAR BOP specification is established, the Alliance may need to meet with the region's utilities and manufacturers to determine their level of support for the ENERGY STAR specification and brand in the region. This interaction should also help to clarify the level of any continued involvement by the Alliance in the program.

3. Additional research conducted on utilities, manufacturers, and dealers may prove useful in informing decision-makers about branding issues.

1. INTRODUCTION AND BACKGROUND

A. Introduction

The Northwest Energy Efficiency Alliance (the Alliance) is a non-profit corporation supported by electric utilities, public benefits administrators, state governments, public interest groups, and energy efficiency industry representatives. These entities work together to make affordable, energy-efficient products and services available in the marketplace. This report is the fourth and final *Market Progress Evaluation Report* to assess the status of the Alliance's *Super Good Cents® Manufactured Housing Program.* It focuses on program and market developments from July 2001 to December 2003.[1]

The report is divided into five sections. This chapter presents a brief background and description of the program. *Chapter 2* updates the market and program activity. *Chapter 3* discusses the evaluation approach and presents the Alliance's performance indicators and other facts about the progress made by the program. *Chapter 4* reviews the Alliance's ACE cost-effective model assumptions for the program. *Chapter 5* contains the major findings, conclusions, and recommendations

The main body of the report is followed by *Appendix A*, which includes a listing of current utility incentives, *Appendix B*, which contains an updated chart of Regional Production, and *Appendix C*, which contains summary pages from the latest cost effectiveness analysis for the *Super Good Cents Manufactured Housing Program.*

B. Background

The *Super Good Cents Manufactured Housing Program* has been one of the Northwest's longest lasting and most resilient energy efficiency

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[1] The initial report was a baseline market assessment and market characterization for the *Super Good Cents Venture* (August 1998). The second report was the initial Market Progress Evaluation Report (MPER #1, February 1999), which focused on the market indicators and success in the development of a market–based, self-supporting program. The third report (MPER #2, December 1999) updated program progress through 1999. The fourth report (MPER #3, June 2002) reported on the final results of the SGC Venture and provided lessons learned.

programs of the past twenty years. This background summary presents a brief history of the program, from early developmental research until the end of the *Super Good Cents* (SGC) *Venture* in June 2001. The summary draws heavily from prior Market Progress Reports, which documented developments as they occurred.

Early field research establishing the technical basis of Super Good Cents was completed in the mid-1980's, through the *Residential Conservation Demonstration Program*, funded by the Bonneville Power Administration (BPA). This effort lead to the first customer rebate programs in the region designed to promote SGC manufactured housing. In the late 1980s, this effort achieved nearly a 20% market share.

In the mid-1990's, Bonneville Power, interested in achieving even higher penetration of SGC, introduced the *Manufactured Housing Acquisition Program*, or MAP. MAP provided utility incentives directly to the region's manufacturers for building SGC homes. It was during this time that SGC achieved a market share that exceeded 90%. Also, manufacturers began branding and labeling gas-heated Natural Choice™ (NC) manufactured homes when they met the regional SGC envelope standards. When HUD raised the national standards for energy efficiency in manufactured housing in 1994, several investor-owned utilities questioned the need to continue to support MAP with incentives. When these utilities backed out, it led to the end of MAP within a short period of time. Market share of SGC housing decreased to 70% in 1996, 60% in early 1997, and about 50% by the end of 1997.

It was the State of Oregon that successfully re-established a SGC program after MAP. The Oregon Department of Energy acquired the rights to the SGC trademark and provided sub-licenses to the Idaho Department of Water Resources and the Washington State Energy Office. With the SGC trademark in hand, the three states embarked on a *Super Good Cents Certification and Quality Assurance Program* that provided manufacturers with third-party quality control and technical assistance in exchange for a manufacturer-paid fee of $30 per SGC home produced. The program was self-sustaining in Oregon, with its large manufacturing base, but the other states struggled with lower fee revenue.

To make up for the shortfall, the energy offices in Idaho, Washington, and Montana approached the Alliance in 1997, and were successful in obtaining funding to create a self-sustaining, market-supported SGC certification and quality assurance program in their own states. The program became known as the *Super Good Cents® Venture*. Its objectives were threefold:

1. Increase market share of SGC homes (by 25% over the benchmark of 50%).

2. Continue to provide SGC quality control and assurance.

3. Transition to a market-supported program (by June 2000).

Oregon cooperated with the Venture for three years, but never joined, until after the program was restructured in 2000/2001, when the Alliance established a contract with ODOE for marketing.

To lend additional support, the Alliance contracted with Pacific Energy Associates, Inc. (PEA) to conduct evaluation work on the SGC Venture. PEA found that corporate buyouts and industry consolidation had changed the manufacturing base and market structure for manufactured housing in the Northwest. Price competition had increased in the area's manufactured housing market and the sales of SGC homes had eroded to below 50% of the total. Additional developments in the market indicated that regaining market share would be difficult.

PEA concluded that changes to the Venture's goals and strategies were needed because barriers to increasing the market penetration of SGC were too substantial, given the market conditions and direction. PEA recommended the Venture complete a business planning process to establish minimal and enhanced scenarios for moving the project forward. PEA also recommended that the SGC Venture work with the Environmental Protection Agency (EPA) to redefine the ENERGY STAR specifications for manufactured housing in the Northwest so that they would be consistent with the SGC specifications, and that it consider development of a co-marketing campaign.

The Northwest manufactured housing market continued to struggle with structural and operational changes in 1999, and the market share of SGC declined to 40%. However, the business planning process had progressed to the point that establishment of a new, fully-regional enterprise was considered and the technical issues pertaining to aligning the SGC program with ENERGY STAR were initially resolved. This effort resulted in an EPA-approved ENERGY STAR manufactured housing specification for the Northwest that was equivalent to the SGC specification, but with a heat pump requirement for homes sited east of the Cascades.

The *Super Good Cents Venture*, although not ready to implement ENERGY STAR, successfully engaged the manufactured housing industry in 2000 and garnered support for restructuring and continuing the SGC program. Most of the region's manufacturers formally responded with letters of support for the redesigned program. It appeared the level of backing was sufficient to financially sustain the SGC brand in the marketplace through an integrated marketing and quality assurance program. During this time, the Venture partners, including the state energy offices, worked to develop the states' third-party role in certifying homes as ENERGY STAR.

Within a year, the SGC program added an advisory board representing the manufactured housing industry, increased per-home SGC fees to $100 to support the real costs of the SGC certification program, and established a contract between the Alliance and the Oregon Department of Energy to provide marketing support. Co-branding of ENERGY STAR within the SGC program also progressed as the state energy offices began to sign-up manufacturers as ENERGY STAR Partners, print and distribute new SGC/NC[2] ENERGY STAR co-branded labels, distribute *ENERGY STAR* logos to manufacturers for advertising use, and register co-branded homes with the EPA.

Misunderstandings eventually developed between the industry and program representatives over control of the marketing efforts and the new fee schedule met with resistance from the region's high-volume SGC manufacturers. These manufacturers eventually quit the program, citing the disproportionately heavier financial burden placed on them, even though the schedule was modified to place a cap on fees. Without the fees from these manufacturers and with the market in a slump, SGC market share hit a new low of 34% and there was not enough fee-income to support the SGC Venture.

2 In 1995, Northwest Natural Gas, representing the region's gas utilities, wanted to offer manufactured home buyers an energy-efficient choice. Working with the Super Good Cents program, Natural Choice became an option available throughout the region. By using the same efficiency measures as Super Good Cents, except with efficient natural gas space and water heating, consumers could get a certified efficient natural gas home.

The operating environment continued to deteriorate during implementation of the new SGC marketing campaign. This led Alliance staff to conclude that transitioning to an industry-supported marketing model was no longer possible. Ultimately, staff recommended the Alliance exit the SGC Venture in a way that preserved the basic quality assurance infrastructure of the SGC program and offered limited marketing support to interested manufacturers and retailers.

When the energy crisis hit in January 2001, with encouragement from the *Northwest Energy Efficient Manufactured Home Program* (NEEM™), the plant general managers responded to the market opportunity presented and substantially increased production of energy-efficient homes in the last six months of the SGC Venture (January-June 2001), raising the market share of SGC to 55% in the second quarter of 2001.[3]

The Alliance terminated the SGC Venture in June 2001, but was already beginning to develop a post-Venture strategy focusing on utility outreach and promotion of Bonneville's *Conservation and Renewables Discount* (C&RD) *Program* to utilities. This effort would become the *Super Good Cents Manufactured Housing/ENERGY STAR Transition Program*, as detailed in chapter 3.

[3] This rise in production may have also reflected a response to dealer increases in SGC inventory in preparation for the *Amazing* ad campaign to promote SGC during the Venture, which was targeted and partially run in April 2001.

1. INTRODUCTION AND BACKGROUND

2. EVALUATION APPROACH AND PROGRESS INDICATORS

A. Evaluation Approach

The scope and approach of this evaluation is to document and report on what happened in the marketplace during the *Super Good Cents Manufactured Housing / ENERGY STAR Transition Program* by examining pertinent program and market data, and discussing program accomplishments and challenges with regional stakeholders. The following activities were conducted:

+ **Data Analysis**: Program data from various sources were examined, including Super Good Cents and Natural Choice production data, ENERGY STAR manufactured home data reported to EPA, and BPA Conservation and Renewables Discount (C&RD) incentive data.

+ **Stakeholder Interviews:** Interviews were completed with representatives from four state energy offices, the Northwest Power and Conservation Council, and Alliance staff and its program delivery contractor, Evergreen Consulting Group.

B. Progress Indicators

In this section of the report, program goals and key indicators of the progress of the SGC/ES Transition Program are presented through a review of industry and program data. To present the historical context of program results, some industry data is presented dating back to the beginning of the SGC Venture in 1997. Most, however, covers the two-year transition period beginning with the third quarter of 2001 and ending with the third quarter of 2003.

The original goal of the Transition Program was to ensure local utility incentives be directed toward the sale and purchase of SGC manufactured housing. The objectives were to: 1) increase sales of SGC homes; and 2) transition to long-term relationships between utilities and the manufactured housing industry by providing utility and manufacturer coordination and marketing support. In July 2002, the Alliance expanded the program's objectives to include facilitating utility and industry stakeholder input into the development of the Alliance's *Residential Sector Initiative* (RSI), and coordinating with utilities and manufacturers to assist the industry transition to ENERGY STAR from the SGC brand.

The staff recommendation for the Transition Program extension specified three indicators of success to measure program performance and market progress:

1. **Market Share**: Maintain share for SGC/NC at 60% or higher (primary indicator).

2. **Utility Support**: Recruit a minimum of ten additional utilities offering incentives via public purpose funds and C&RD credits (secondary indicator).

3. **Manufacturer Support**: Full participation by the manufactured housing industry (secondary indicator).

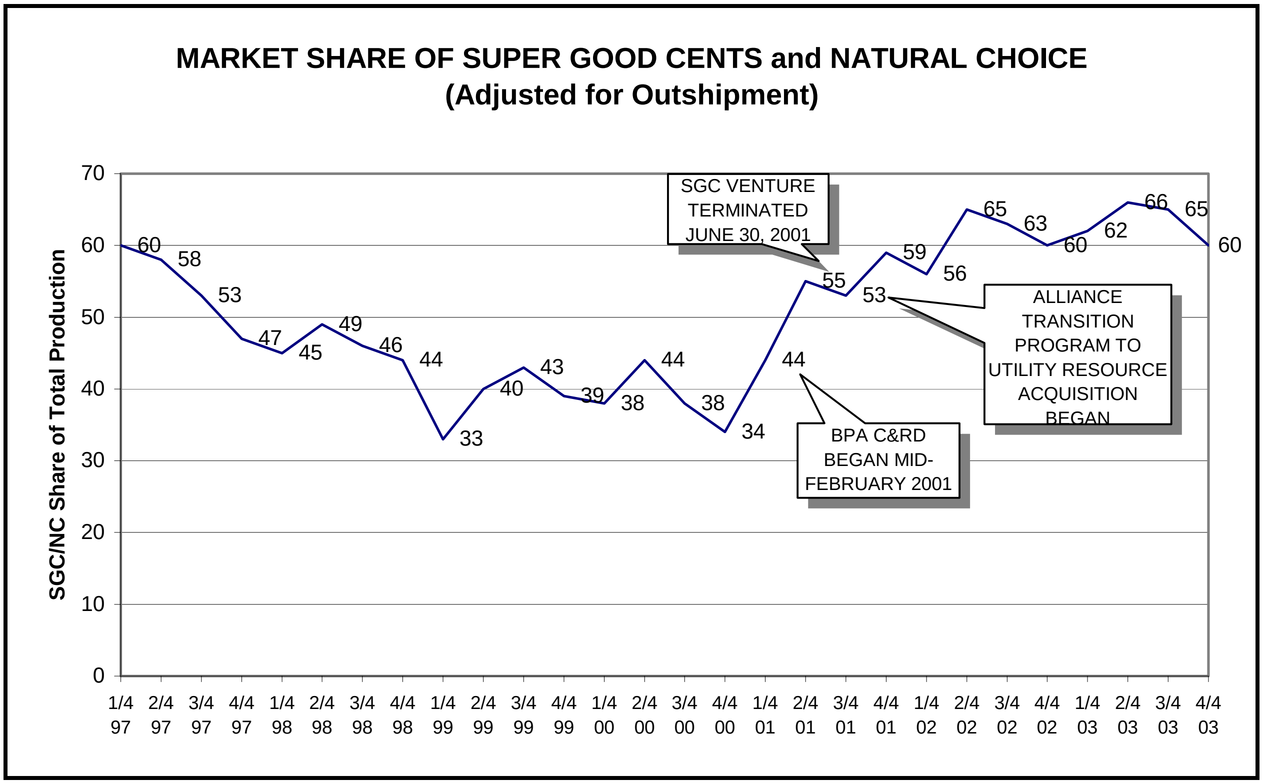
This section reports on those three progress indicators, as well as progress on coordinating the marketing transition to ENERGY STAR branding.

Market Share

The market share of SGC/NC has risen in a positive trend to achieve the levels of the high of 1997. *Figure 1* shows the regaining of market share by SGC/NC, nearly doubling during the peak period of the energy crisis in early 2001.

During the Transition Program, market share increased more gradually, from 55% at the end of the SGC Venture, to the current 60% level just achieved for the fourth-quarter of 2003. This makes the seventh consecutive quarter that SGC/NC market share has reached over 60%, thus achieving the primary performance indicator for the program.

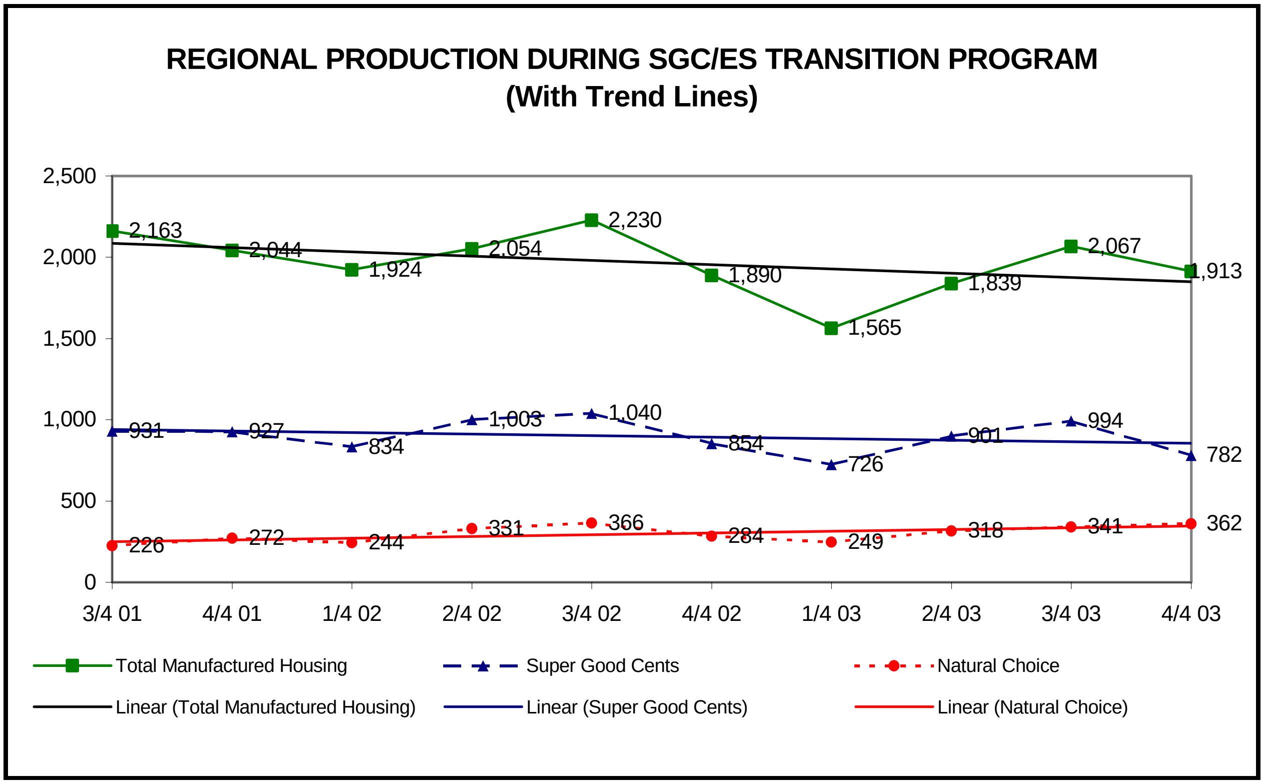
Figure 1



Source: ODOE Quarterly NEEM Production Report

A closer look at the two-year SGC/ES Transition Program period, using trend-line analysis, shows overall manufactured housing unit production decreasing (-11%), corresponding with a decrease in SGC production (-8%), while Natural Choice production rose +37% (*see Figure 2*). In general, SGC market share has tended to decline during periods of declining production and increase during periods of increasing production.

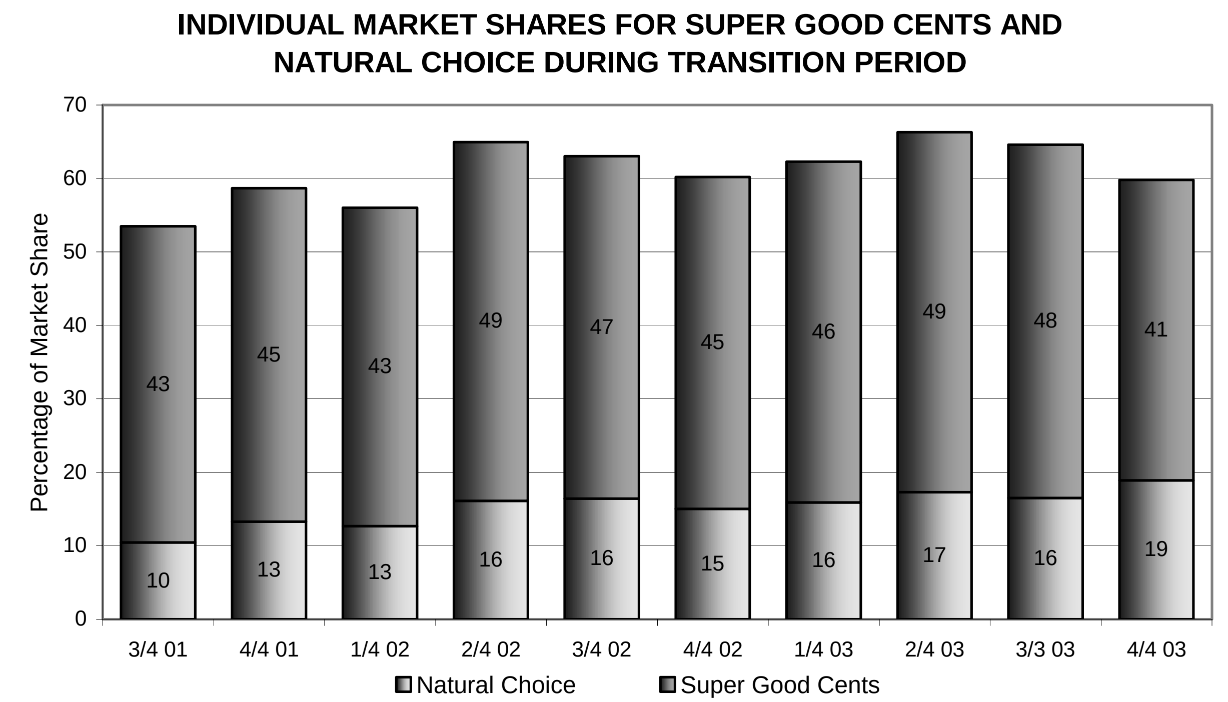
Figure 2



Source: ODOE Quarterly NEEM Production Report

The market share of Natural Choice homes nearly doubled during the Transition Program (*see Figure 3*), reflecting the continuation of a consistent, long-term trend dating back to 1997, while the market share of SGC homes stayed about the same.

Figure 3



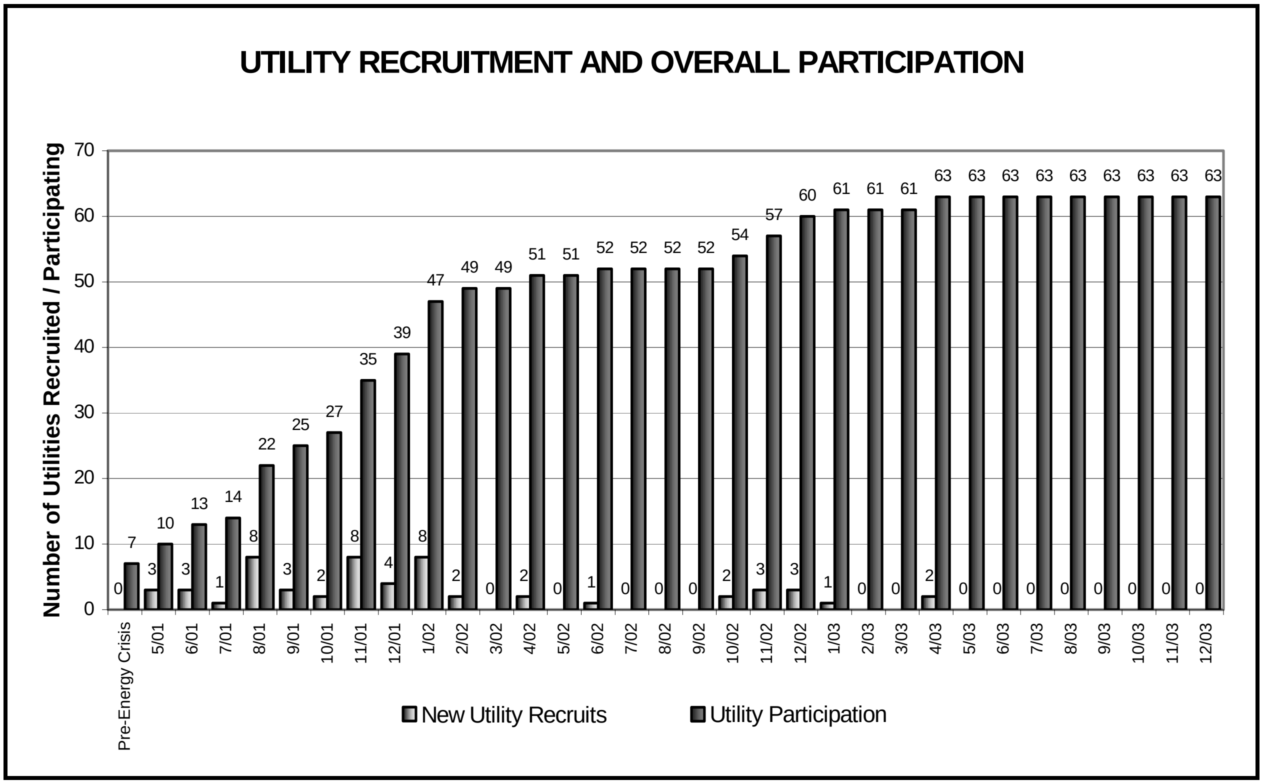
Source: ODOE Quarterly NEEM Production Report

Utility Support

Utility recruitment was successful, and support for the *Super Good Cents Manufactured Housing/ENERGY STAR Transition Program* appears strong. The Alliance's outreach effort to sign up utilities to participate in the program produced positive results—particularly during the first few months of efforts (July 2001 to January 2002) when most of the utilities were contacted by Evergreen about participating in the program (*see Figure 4*).[4]

[4] Prior to the energy crisis in early 2001, only seven utilities in the region offered and funded incentives for SGC. When the C&RD became available, four of these utilities switched from self-funding and began funding SGC under C&RD, while the other three continued self-funding. All participated in the SGC marketing program and received the Utility Marketing Kit. In April and May 2001, prior to Evergreen's

Figure 4



Source: SGC Manufactured Homes Utility Support and Participation Reports; Evergreen Consulting Monthly Status Reports

After Evergreen's contract was extended in July 2002, an additional eleven utilities were recruited, thus achieving the second progress indicator. The eighteen-month extension of the program proved more challenging, as several utilities dropped out because strategies changed and C&RD monies were depleted. However, one of the noteworthy occurrences in 2003 was Evergreen's recruitment of two large utilities into the program (Idaho Power and Tacoma Public Utilities).[5] During this

launch of aggressive utility outreach in June/July, the Alliance contracted with the state energy offices for dealer training. An additional outcome was that some utility contact was performed by the state energy offices, resulting in six additional utilities electing to offer SGC incentives.

5 Puget Sound Energy was recruited by Evergreen, and received Washington Utilities and Transportation Commission (WUTC) approval to offer SGC incentives beginning June 2002.

time, Evergreen also laid the groundwork with the Energy Trust of Oregon to bring SGC back into the PacifiCorp service territory, and expand SGC incentives offered by Portland General Electric.[6] The program is scheduled to launch in early 2004.

As of January 2004, 63 utilities (over 40% of the region's total of 152), representing service territories containing over half the region's population base were signed on to support the program or provide SGC/ES consumer incentives; half also provided incentives to sales personnel.

Manufacturer Support

Industry support for SGC/ES has been consistently strong during the Transition Program. All eighteen manufacturers in the region regularly build and label homes SGC/NC, thus achieving this performance indicator.[7] Manufacturer support has remained at 100% for the entire two-year duration of the program. For most of 2003, five of the eighteen manufacturers produced 100% SGC/NC, the highest figure since 1997. Thirteen of eighteen manufacturers produced over 50% *Super Good Cents/* Natural Choice; the weakest supporters consistently produced over 25%.

C. Other Indicators of Progress – ENERGY STAR Market Share and C&RD Incentives

Figure 5 shows the percentage of total production labeled ENERGY STAR during the SGC/ES Transition Program. Market share has stabilized at about 40% for the six quarters from July 2002 until September 2003 (when data was last available). The percentage of Super Good Cents/Natural Choice units labeled ENERGY STAR has remained at about 60%. The Washington State University Cooperative Energy Program that tracks and reports ENERGY STAR results to the EPA

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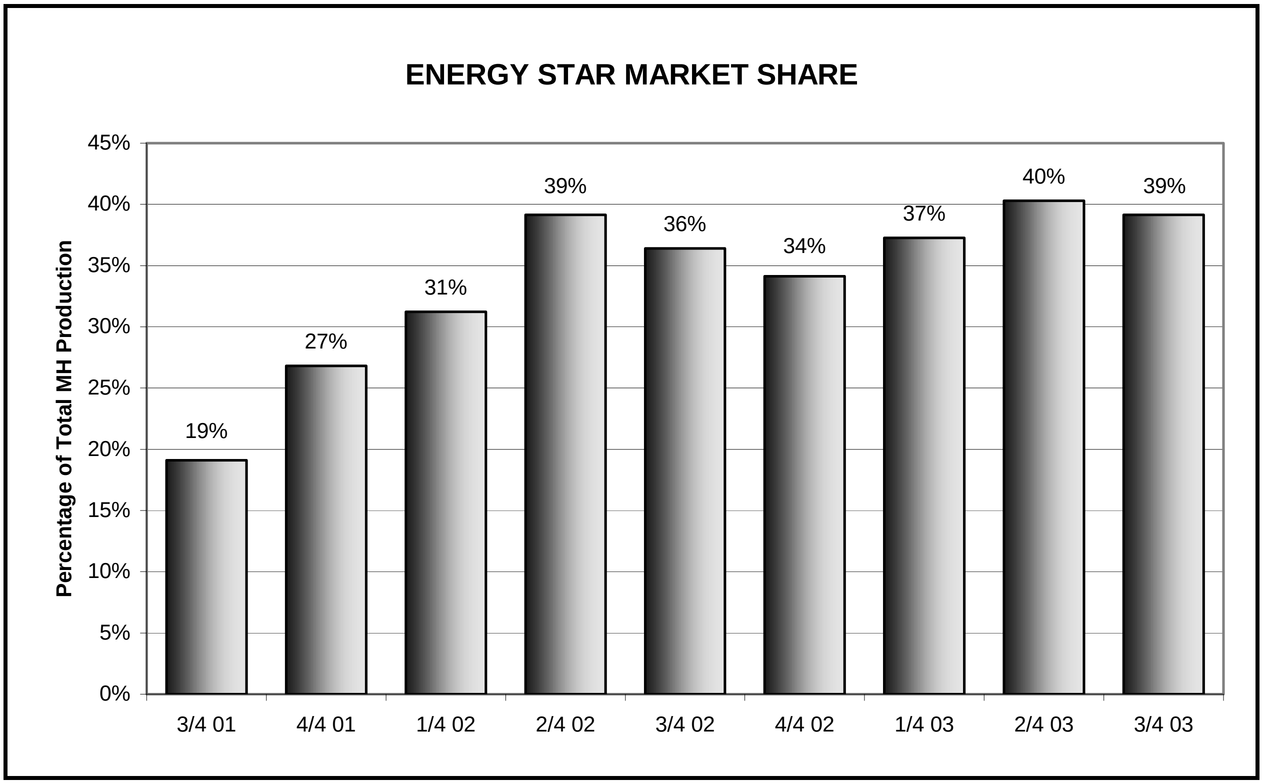
6 PGE's incentives had been tied to its *Earth Advantage*™ program, of which only one of the region's eighteen manufacturers was participating.

7 There was a period in 2000 and 2001 when two high-volume manufacturers of SGC left the program over disputes concerning the fee structure. This was ultimately resolved by NEEM™ program management and the firms re-joined the SGC program in July 2001, just prior to launch of the SGC/ES Transition Program.

indicated that the number is actually higher due to labeling and reporting anomalies they have been working to resolve.[8]

Figure 5



Source: WSU Energy Program ENERGY STAR Data and ODOE NEEM Production Data

Figure 6 shows the results of the co-branding strategy on SGC homes and NC homes. For SGC homes, only half are labeled ENERGY STAR, reflecting the restriction on ENERGY STAR labeling of electric-resistance heated homes sited east of the Cascades. Natural Choice

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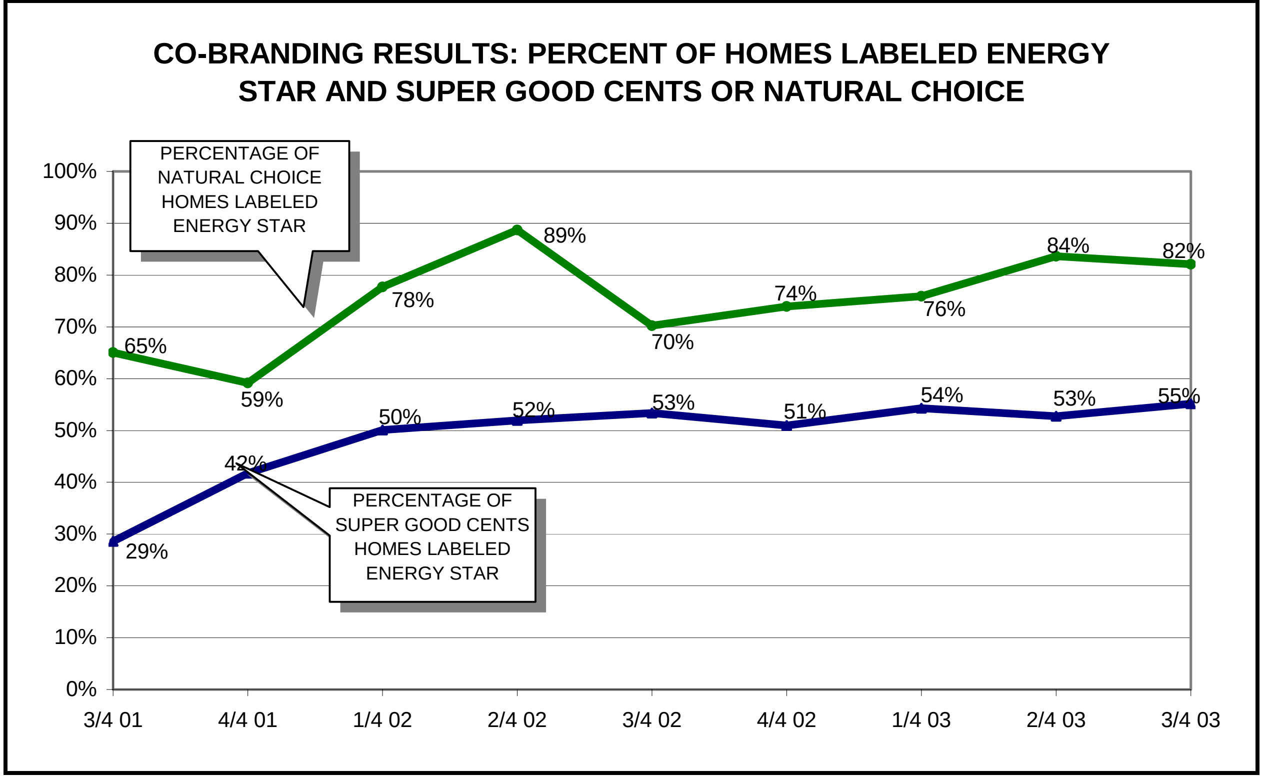
[8] The big problem is that the states have no mechanism to track (east-side) SGC units installed with heat pumps, as this is usually an after-market add-on. And, there could be a lot of them, as research recently completed by Ecotope found that 40% of the SGC manufactured homes located in eastern Washington were installed with heat pumps.

homes, which have no labeling restrictions in the region, average about 85% labeled ENERGY STAR.

Figure 6



Source: WSU Energy Program ENERGY STAR Data and ODOE NEEM Production Data

Although starting slowly in FY-2001, the number of utility C&RD incentives used to purchase SGC homes grew consistently, reaching 20% of SGC production in FY-2003. *Figure 7* shows the number of C&RD[9] incentives used to help purchase SGC homes for each of the past three years.

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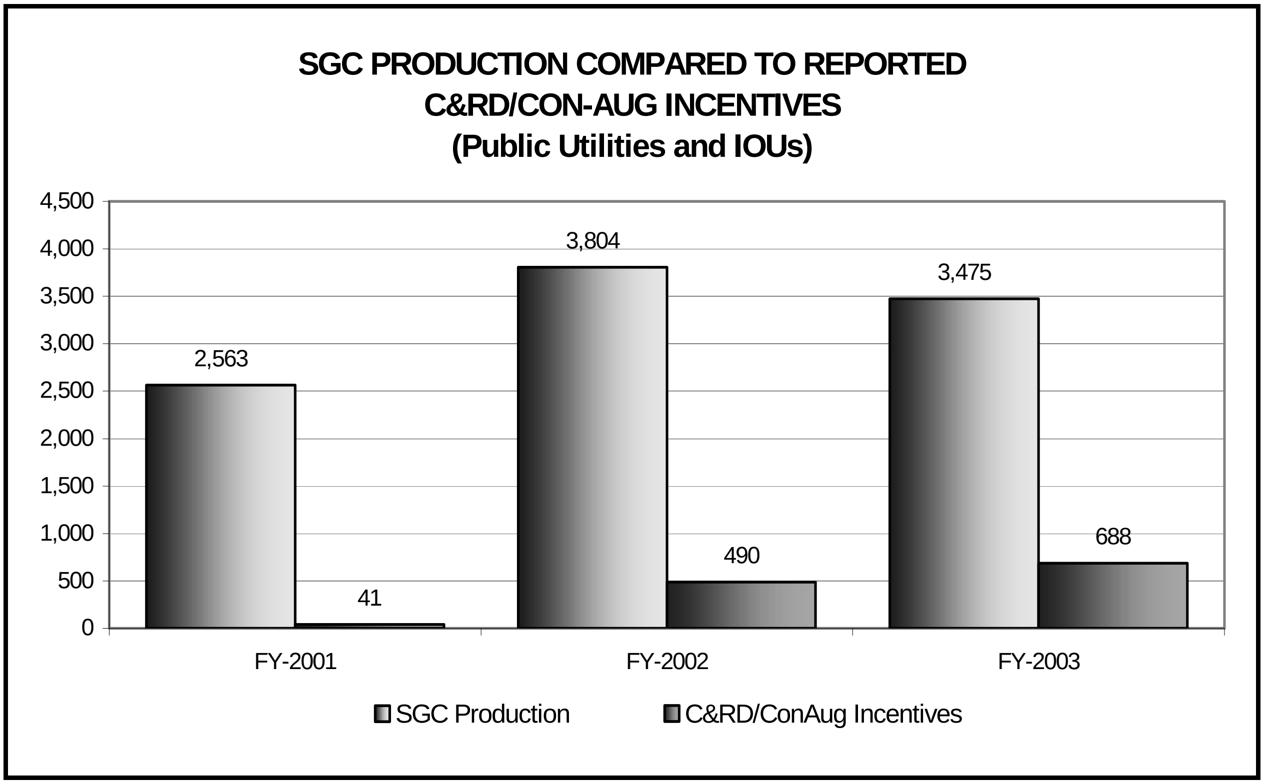
[9] Con-Aug statistics were combined with C&RD for this chart. The number of C&RD incentives used to purchase SGC homes outnumbered Con-Aug incentives about 8 to 1. Small utilities (<7.5 aMW) are not required to report C&RD or Con-Aug results to BPA, so this information is missing from the statistics cited above.

Figure 7



Source: BPA C&RD Incentives and ODOE NEEM Production Data

What is unclear is why more of these incentives were not used to purchase SGC homes. The average incentive amount is nearly high enough to offset incremental costs, and many of the utilities also pay a significant sales incentive to the dealer in addition to that paid to the consumer. In a program that reached over 40% of the utilities, representing over half the population base of the region, it is difficult to understand why the incentive is used only 20% of the time. Reasons for this, cited by stakeholders, seemed to point to the manufactured housing dealerships, where staff turnover and lack of training are barriers to higher awareness and use of the incentive. It does, however, point out an area of weakness and challenge for the SGC program.

3. PROGRAM AND MARKET UPDATE

This section of the report presents program and market developments from July 2001, when the Alliance terminated the effort to create a self-sustaining market for Super Good Cents (SGC) manufactured housing and rolled over a portion of the unspent dollars to local utilities in the region for transition support through 2003. It covers both the initial period of the Transition Program (July 2001–July 2002) and the period of the Transition Extension (July 2002–December 2003), during which time the industry began its transition from the SGC to the ENERGY STAR brand.

A. Transition to Utility Resource Acquisition Programs

As its *Super Good Cents Venture* was winding down in mid-2001, the Alliance was working to develop a new strategy, one that effectively leveraged utility support for SGC during the apex of the region's energy crisis. To accomplish this, the Alliance contracted with Evergreen Consulting Group, LLC (Evergreen) to provide outreach to utilities to generate interest in providing incentives and marketing support for SGC-manufactured housing.[10] Utility incentives had just become available through Bonneville's C&RD program, and Evergreen's goal was to recruit utilities to offer C&RD incentives and promote their use for resource acquisition purposes.

Evergreen's recruitment efforts took various forms and covered all four states in the Northwest. (*See Figure 8 for a detailed breakout of Evergreen's activities.*) Many individual meetings with public, private, and cooperative utilities were held; and numerous group meetings and presentations occurred at BPA conferences and roundtables, during industry conferences, with local government organizations and municipalities, and with utility associations. Most of the utilities in the region were contacted in some form within the first several months of outreach efforts.

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[10] The hiring of Evergreen in June 2001 to begin the long-term, aggressive phase of utility outreach and recruitment was preceded by a similar short-term effort when the Alliance contracted with ODOE for dealer training. (In April and May 2001, the efforts of the Oregon State Energy Office added six utilities to an original list of seven small utilities that offered SGC incentives before the energy crisis.)

Figure 8

UTILITY RECRUITMENT AND COORDINATION ACTIVITIES PERFORMED BY EVERGREEN CONSULTING GROUP IN SUPPORT OF SGC FROM JUNE 2001 THROUGH DECEMBER 2003

- Recruited at least 50 new utilities into the program, including several large utilities: PGE, PSE, Idaho Power, Tacoma, and PacifiCorp through the Energy Trust of Oregon.
- Performed outreach to all the region's utilities through hundreds of individual contacts and group presentations at conferences (monthly since June 2001). Conference presentations included: League of Washington Cities, BPA Conservation Conference, Idaho Energy Conference, NWPPA NW Innovations Conference (3 years), BPA Roundtables in every state, Alliance Partner Forum, Montana Association of Co-ops, Montana Cities Annual Convention, Association of Dealers in Washington and Montana, and the Association of Muni's and Co-ops in Washington.
- Supported all 63 utility participants with SGC utility marketing kits, draft incentive forms, and dealer communications. Provided SGC marketing kits to all 18 manufacturers.
- Delivered regular e-mail newsletters; updated Utility Incentive Participation Lists and sent to stakeholder utilities and manufacturers on a periodic basis.
- Participated in regular monthly conference calls with the NEEM program to coordinate outreach activities, communicate about new utility incentives, and discuss issues impacting the program (monthly since December 2001).
- Planned for and participated in Salem and Puyallup Manufactured Home Shows in 2002 and 2003. Hosted the "Power Breakfasts" and SGC awards ceremony at the shows. Paid for printing *A House Full of Savings* posters used at the show.
- Conducted several dealer training sessions, including the Oregon Home Show, and at Valley Manufacturing with WSEO, and developed a retailer brochure; performed several training sessions for manufacturers on utility incentives.
- Conducted four manufacturer plant tours in 2003 at: Palm Harbor (11 utility reps attended), Fleetwood of Washington (18 utility reps attended), Fuqua (23 attended), and Guerdon.
- Completed manufactured housing data analyses and data requests on at least one-quarter of utility recruits.
- Worked to add lighting and appliances to the specification changes for the SGC program.
- Arranged training from the American Lung Association to present material on back-drafting and IAQ issues for manufacturers.
- Garnered manufacturer support for the Zero Energy Home.
- Worked with the NEEM program to begin the transition to Energy Star.
- Worked on the equivalency standards of SGC and Energy Star.
- Developed various background papers for the investor-owned utilities, including program concepts, and interim strategies for moving to use of SGC incentives.
- Responded to issues brought up by utilities, including drafting a document for NEEM concerning quality control issues on home set-up, drafting a concept paper allowing full requirements customers of BPA to participate in Conservation Augmentation without having to use limited C&RD funds – later incorporated into the BPA record.
- Drafted a Q&A document on the relationship between ENERGY STAR and SGC, based on questions from utilities.

Evergreen supplied utilities with a special marketing kit that the Alliance had developed under its *Amazing* campaign for the SGC Venture. The kit – which included print ads, radio scripts, bill stuffers, SGC graphics, and newsletter articles – was the primary marketing support element for the outreach effort. Utilities were responsible for placing the ads. New brochures and posters, funded by the Alliance, were developed later to update the utility marketing kit.

Evergreen's other main activity was communication and coordination of information between all of the stakeholder parties, including utilities, manufacturers, state energy offices, and retailers. This communication was performed in person at meetings and conferences, on conference calls, or via e-mail updates sent regularly to different groups on two lists (one for manufacturers and dealers, and one for utilities and stakeholders). The periodic sharing of an up-to-date list of utilities supporting SGC, their incentives, and a contact name and number, was the critical element of the program (*see Appendix A for Super Good Cents Manufactured Homes Utility Support and Participation List*). This coordination was especially helpful to manufacturers and dealers, who benefited from the utility support.

Evergreen provided other coordination services, including numerous manufacturer and dealer incentive training sessions, annual home show support in each state, and at least five manufacturer plant tours for stakeholders. Evergreen packaged and shared draft rebate forms and other customer communication pieces about the program with the various utilities. Monthly conference calls between Evergreen and the state energy offices to coordinate utility outreach and other efforts occurred regularly for the duration of the Transition Program.

Public utilities responded in large numbers to the opportunity to support SGC manufactured housing. After one year of the program (July 2001 to June 2002), 52 utilities were on board and offered Bonneville's C&RD or *Conservation Augmentation* (Con-Aug) *Incentives* for SGC. At that time, the Alliance decided to extend the transition program through 2003 in order to maintain the momentum gained in the market from July 2001 to July 2002, and to facilitate manufacturers' and utilities' transition to ENERGY STAR branding.

During the extension period, Evergreen re-contacted every utility in the region and either confirmed participation or determined interest in supporting the program. This endeavor pushed the number of utilities signed-on to over 60, where it has remained for the past year. A key accomplishment was adding a number of large utilities (including one investor-owned) and the Energy Trust of Oregon, Inc. Although the outreach effort has largely concluded, on-going coordination with stakeholders continues.

As a result of Evergreen's approach, use of utility C&RD incentives to promote SGC homes grew consistently for three years, making a significant impact on the market. For FY-2003, 688 Super Good Cents C&RD incentives were processed, representing 20% of the SGC market, or about 10% of market share compared against total production.

B. Co-branding and the Transition to ENERGY STAR

Manufacturers co-brand and label some SGC/NC homes as ENERGY STAR through the *Northwest Energy Efficient Manufactured Home Program* (NEEM).[11] Although the Alliance and its NEEM partners received EPA's approval for an ENERGY STAR specification[12] for the Northwest in 1999, it was not until mid-2001 before issues were resolved and co-branding could be implemented.

The process – administered and facilitated through the state energy offices under the NEEM program – has been working, and all the manufacturers currently participate as ENERGY STAR Partners and co-brand homes. The Alliance, working with the NEEM program and the utilities, has

[11] NEEM is the *Northwest Energy Efficient Manufactured Home Program*. Team members include the Oregon Department of Energy (program lead), the Washington State University Cooperative Energy Program (technical expertise, and reporting/interface with EPA), Idaho Department of Water Resources (Internet-based data tracking and regional 800 hotline), and Montana Department of Environmental Quality (problem home resolution). Stakeholder organizations assisting the NEEM team are the Northwest Power and Conservation Council, Ecotope, and the Alliance.

[12] The 1999 ENERGY STAR specification is the basis for ENERGY STAR labeling of Natural Choice gas heated homes sited anywhere in the region, and SGC electric-resistance heated homes sited west of the Cascades. But SGC units sited east of the Cascades require an air-to-air heat pump before being eligible for an ENERGY STAR label.

assisted co-branding efforts by funding development of marketing materials that incorporate the ENERGY STAR brand and logo.[13]

The Alliance supported the co-branding strategy for several years. However, as consumer recognition of ENERGY STAR was beginning to grow, and more and more Alliance programs were becoming associated with ENERGY STAR, the Alliance became more interested in consolidating its programs under one single brand to improve and simplify its marketing messages. When it became clear that ENERGY STAR would also become the Alliance's brand for its new regional residential strategy for site-built homes, it was in the Alliance's interest to begin to facilitate manufacturer and utility moves in that direction.

As a result, several initial elements of a strategy to move manufactured housing from Super Good Cents/Natural Choice to ENERGY STAR were identified, including development of a utility marketing transition plan and modification of the marketing kit to include ENERGY STAR marketing information. A transition strategy was reviewed with NEEM team members at the 2003 annual NEEM meeting. Ultimately, before much progress was made, the effort was pulled when the Alliance found it was unable to get the interest and support of the manufacturers, thus stalling its attempt to transition the market to a single regional brand for manufactured housing.

Subsequent efforts by the NEEM program to determine manufacturer interest in shifting to a single brand under ENERGY STAR found mixed results. While the larger manufacturers tended to support ENERGY STAR, overall, the manufacturers preferred to keep the program brand-neutral, focusing instead on building the best product they could afford, while retaining the SGC thermal shell orientation. There was interest in creating a Northwest identity without a label, due to the belief of some that the labeling concept has become a headache with too many different labels to manage. Although there was no consensus in the group, what was clear was that SGC should not be dropped until a stable industry-accepted alternative was established.

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[13] Examples include the new co-branded brochure *A House Full of Savings*, and printing of posters for the annual home shows in each state.

C. The NEEM Program

The NEEM program (which is responsible for administering the regional SGC/NC certification program and the technical specs and labeling protocols for SGC, NC, and ENERGY STAR) fully stabilized during the past two years, putting itself on solid ground. New roles and responsibilities were established between NEEM team members and a new fee schedule was developed and adopted by the region's manufacturers. As market share of SGC/NC increased, so did revenues, which made the program self-sustaining and enabled the hiring of a marketing firm to strengthen marketing efforts. NEEM was also active in making improvements to its program, several with positive market transformation implications.[14] However, the program is not without challenges, most of which will need to be resolved in 2004.

+ The master license for Super Good Cents expires January 1, 2005, and BPA has indicated it has no plans to renew it. A decision will have to be made on whether to retire it, or renew it under another license. Without SGC, the region east of the Cascades could be left without a brand name for much of the energy-efficient manufactured housing produced in that area.

+ The ENERGY STAR Builder Option Package (BOP) specification revision is due on January 1, 2005, and must be re-negotiated. A series of proposals and clarifications made this past summer were unable to resolve the technical issues, indicating the re-negotiation with the EPA may be a challenge. The loss of control over specifications for its own program has frustrated NEEM planners.

+ EPA has proposed a more stringent specification for ENERGY STAR, one that potentially eliminates the electric-resistance path from the program (e.g., forced-air electric furnaces).

[14] Specifications were upgraded, demanding that manufacturers now use mastic in all cases on ductwork and penetrations (exceeding the site-built code). In addition, weaknesses in the ventilation specification were tightened up. In a new development, NEEM reported one-quarter of plants now duct-blast homes, and indicated it was a growing trend. From an R&D standpoint, a zero-energy manufactured home pilot was also completed.

+ The current ENERGY STAR specification for SGC electrically-heated homes sited east of the Cascades, which requires an air-to-air heat pump, has labeling challenges and has proven difficult to count and implement in the field. Most ENERGY STAR labeling is done at the factory, but for units shipped heat pump-ready (e.g., forced-air furnace with space for a heat pump coil), labeling is delayed because final decisions on the type of heating system and efficiency level are determined later, in the after-market, by the homeowner.

+ The east-side heat pump requirement has reduced the number of SGC homes to be co-branded and labeled ENERGY STAR, primarily due to the higher costs associated with the heat pumps. To address this, the NEEM team has recently allowed a lower-cost alternative to the heat pump – an electric furnace with a heat recovery ventilator – but acceptance by the industry is unclear.

+ The co-branding strategy may be leading to branding confusion at the retailer and consumer levels, complicating the message and sales of energy-efficient manufactured homes. Distinguishing and explaining the differences between SGC, Natural Choice, ENERGY STAR, NEEM, and Earth Advantage may be too much of a chore at the point-of-sale.

The NEEM team, in conjunction with other regional energy planners, is working to address these issues. The group has already met several times in 2004 to develop a strategy, and has established objectives, timelines, and a negotiating team for resolving the main issues concerning EPA's Northwest ENERGY STAR BOP specification. The Alliance, while providing facilitation and coordination with team members, will play an important role in assisting the states and the Northwest Power and Conservation Council in negotiations with the EPA.

D. New Players Enter the Market

Two new players have recently become involved in the energy-efficient manufactured housing industry. The Energy Trust of Oregon, Inc. is planning to offer incentives to Oregon dealers for ENERGY STAR manufactured housing. A $150 dealer incentive for up to 600 homes has been proposed by PECI/CSG, the Trust's new program management contractor (PMC). Marketing funds for branding and dealer training will round out the program. Co-branding strategies are currently being defined, along with roles and responsibilities between PECI and its partner allies, including the ODOE. Rollout is expected after the annual *Oregon Manufactured Home Show* in Salem, Oregon, in March 2004.

PECI/CSG was also selected as the PMC for the Alliance's new regional *ENERGY STAR New Construction Site-Built Program*, and will have the lead in developing branding strategies for it.

Both organizations will likely play important roles in influencing the energy-efficient manufactured housing marketplace going forward.

E. National Developments

A recent development by a utility in the Northeast may provide new flexibility to Northwest regional energy planners in achieving ENERGY STAR BOP requirements. Energy-efficient lighting and appliances were used to help achieve a HERS rating score of 86, thus enabling compliance with the ENERGY STAR BOP requirements. The new approach was posted to the RESNET website,[15] authenticating its use for BOP providers.

This development may offer Northwest energy planners new options for either: 1) enhancing the ENERGY STAR program for manufactured housing with new, potent energy-saving measures; or 2) complying with EPA's new, more stringent Northwest BOP recently proposed for manufactured housing.

[15] Residential Energy Services Network: http://www.natresnet.org

4. COST EFFECTIVENESS ANALYSIS

This chapter of the report presents a brief review of the latest Alliance cost effectiveness analysis for the *Super Good Cents Manufactured Housing Program*. *S*ummary pages from the analysis are included in *Appendix C*.

The most recent review of the Alliance SGC cost effectiveness analysis was documented in MPER #3 (June 2002). In that report, PEA suggested the Alliance review the issue of impact attribution for the program and consider taking some credit for SGC homes built after the conclusion of the SGC Venture. Since then, the Alliance has updated its model to reflect these suggested changes. Additional changes to the model were also made by the Alliance, including:

+ Dropping *Sorta Good Cents* from the model. *Sorta Good Cents* was the term used to describe homes that fell just short of the SGC standard, but were substantially better than the baseline, and HUD-level homes. *Sorta* was dropped from the model because no reliable method existed for tracking units in the field.

+ Taking no credit for Natural Choice homes (no non-energy benefit for gas savings).

+ Incorporating the actual units installed from 1997 through 2002.

+ Reflecting a flat growth trend for SGC/NC through 2010, consistent with the results of the past three years.

+ Reflecting a flat growth trend in the overall market for manufactured housing through 2010, consistent with the results of the past three years.

+ Costs in the model were updated with actual costs, or budget projections, through 2002.

+ Establishing the baseline at 45% of SGC production.

The key results from this analysis are presented at the end of this chapter and include the following:

+ $3 million in Alliance funding leveraged over $43 million in efficiency investments in the region.

+ By 2010, over 11 aMW of electrical energy savings will be realized annually within the region because of these investments.

A. Review of the New Model

The cost effectiveness assumptions and inputs contained in the new model *Cost Effectiveness Summary for SGC Manuf – Drop Sorta Smaller Market Zero Growth* (Run Date: March 1, 2004) were reviewed as part of this MPER. Additionally, field research recently completed by the NEEM program was reviewed and found to be important enough that it should be considered by the Alliance to improve the *UA Optimizer* modeling results and the Alliance ACE model.

The following are main points for the Alliance to consider for the next update of the ACE model:

1. The Alliance should consider a review and update of earlier *UA Optimizer* modeling and planning results in light of the new findings from the Ecotope 2003 NEEM field study. These findings could update a number of modeling assumptions that impact the Alliance's ACE model kWh savings. For example:

    a. The average house size in the 105-unit Ecotope sample (drawn from homes built between June 2001 and June 2002) was 1,769 sq.ft. This represents a notable increase in size compared to that used in the current ACE model, 1,509 sq.ft., which was based on mid-to-late 1990's data.

    b. Homes in the field study were built tighter than expected, and tighter than assumptions included in the original *UA Optimizer* modeling runs. Infiltration rates averaged 4.16 ACH in the field study vs. 4.7 ACH used in the model.

    c. The field study found ducts to be leakier than expected, due to problems at the cross-over duct. According to

Ecotope, duct systems are about 20% leakier than in their earlier 2000 study, and about 10% leakier than in the original MAP study. The median supply leakage fraction is 11-13% for the homes in the sample (depending on the measurement technique used); that is, about 11-13% of heated or cooled air is not delivered through the registers. The duct loss translates into a heating system efficiency loss of between 10-20% overall, depending on the location of the home (west-side or east-side of the mountains) and type of heating equipment (heat pumps perform worse). Greater duct losses should be reflected in the Alliance model.

2. The Alliance should continue to update the market shares in the ACE model to reflect actual industry results. This was done for 1997-2002, and the numbers appear fairly consistent with program tracking data, although there were a few minor discrepancies in the 2000 and 2001 data that need to be resolved. For 2003, the Alliance ACE model should be updated to show the following actual results obtained from the NEEM program: 3,403 SGC units, 1,270 NC units, and 7,384 total manufactured housing units.

3. The overall market for manufactured housing from 2001 through 2003 was flat. The trend is expected to continue, as low interest rates for site-built homes continue to impact the manufactured housing market. The Alliance should continue to reflect this flat trend through 2010 in the ACE model. However, recent legislation proposed in Washington, if passed, could improve the market for manufactured housing in the long term. Proposed legislation would limit cities' authority to decide where people can put manufactured homes and force them to treat the homes like any other family residence. Currently, 20 of Washington's 50 largest cities, including Tacoma and Vancouver, prohibit manufactured homes from areas zoned as single-family residential.

4. The market for SGC/NC has also been flat over the course of the transition program. This trend is expected to continue for some time. Market share gains brought about by the expected 2004 launch of Energy Trust dealer incentives may be offset by

decreases in other utility programs as C&RD budgets dry up. The Alliance should continue to reflect this flat trend through 2010 in the ACE model.

B. Recommendation for Post-Project Tracking

The Alliance should continue to track two key cost-effectiveness model assumptions—manufactured housing unit production and SGC market share-- in order to keep its kwh savings and cost-effectiveness calculations up-to-date:

+ **SGC Market Share.** The most useful information we have come to rely on for calculating the market share of SGC is the quarterly NEEM report, which provides plant production numbers for SGC, NC, and total units. These data are usually available from ODOE via Evergreen Consulting within two months following the end of a quarter. Beginning July 2001, the data reported to the Alliance comes already adjusted for outshipment, making comparisons with some previous SGC Venture data more challenging.[16] Information from the NEEM report was used to prepare this MPER, and should continue to be utilized to stay abreast of the primary progress indicator.

+ **Sales.** Information on the sale of manufactured homes is available from Northwest Research Group (NRG) of Boise, Idaho. NRG's county sales data (by state) should be used to help verify the accuracy of SGC market share estimates, which are currently based solely on production data adjusted for outshipment. The Alliance has not had access to this information since the fourth quarter of 2000, but it is available for purchase; and without it, the Alliance has not had an

[16] Plant production data used to calculate SGC market share may not be precise due to out-of-region sales of SGC/NC which are included in the in-region count.

effective tool to double-check and verify production data that provide the primary metric for evaluating success of the program. This information was not used to prepare this evaluation, but acquiring the year-end NRG reports would be most useful and should be considered by the Alliance.

If the Alliance wishes to continue tracking progress on ENERGY STAR branding and utility participation, the following sources can be used. These data are not required, however, for purposes of keeping the program cost-effectiveness model up to date.

+ **ENERGY STAR Labels.** The *Washington State University Cooperative Energy Program* is responsible for reporting ENERGY STAR manufactured home program activity to the EPA. The data can be very useful in helping the Alliance gauge industry progress in co-branding and in transitioning to ENERGY STAR. WSU breaks out ENERGY STAR labeling data by SGC and Natural Choice to provide more detail. These data were used to prepare this MPER, and should continue to be used to stay abreast of co-branding trends. The information is available upon request.

+ **Utility Recruitment and Participation.** Information listing the utilities that offer consumer or dealer incentives for SGC is published periodically from Evergreen Consulting, and is listed on ODOE's website. New reports are usually sent out when old information is updated. These data were used to prepare this report, but it is not critical for post-project tracking

5. Key Findings, Conclusions, and Recommendations

In *Chapters 2* and *3*, some of the program- and market-specific findings pertaining to the *Super Good Cents/ENERGY STAR Transition Program* were presented. In this chapter, the key findings, conclusions, and recommendations are offered that may have value to the Alliance in continuing its transition to ENERGY STAR branding for manufactured housing.

A. Key Findings

1. **The Alliance goals for the SGC/ES Transition Program were met.** As measured against the progress indicators established in 2002, all three measures of success were achieved. Penetration of SGC/NC has stayed above 60% for the last seven quarters. Declining total production and increasing Natural Choice production were factors in sustaining SGC/NC market share at the 60% level over the past two years.

   All eighteen regional manufacturers are on board and pay fees to support the certification and quality assurance program. In 2003, five manufacturers were at 100% SGC/NC, the highest level achieved since 1997. Thirteen of the eighteen manufacturers produced over 50% SGC/NC, and the weakest supporters of the program exceeded 25% SGC/NC.

   Utilities continue to support the program with customer and sales incentives. At least 60 utilities are on board, and eleven new ones were recruited by Evergreen over the past eighteen months. The most recent additions have been the larger utilities, including several IOUs. SGC/NC incentives are now available in utility areas reaching over half the residential customers in the region.

   Use of utility C&RD incentives to purchase SGC manufactured homes grew from 12% to 20%, as measured against SGC production.

2. **Alliance coordination with the industry, utilities, and the NEEM program during the SGC/ES Transition Program was reported to be of value by the state energy offices.** Representatives of the NEEM program, from both Oregon and Washington, indicated they valued the support and coordination provided by Evergreen and the Alliance. Although outreach efforts have concluded, on-going coordination and communication with stakeholders continues, with Evergreen participating in meetings with the NEEM program and assisting in home show activities, both supported by the Alliance

3. **The initial Alliance attempt to begin the transition to ENERGY STAR was not of interest to the industry**. Manufacturers rejected Alliance offers to provide ENERGY STAR materials in the industry marketing kit. According to the state energy offices, the industry would prefer to remain brand-neutral, but retain a regional Northwest identity. The industry appears to value the shell specification of Super Good Cents, but is having problems dealing with the proliferation of labels under co-branding. Some larger manufacturers support ENERGY STAR as a marketing platform for their own companies.

4. **ENERGY STAR market share reached 40% of total manufactured home production in the second quarter of 2002, and has remained at that level ever since.** About as much market share as can be expected has been obtained from this specification, which restricts ENERGY STAR labeling of electric-resistance heat east of the Cascades.

5. **The NEEM certification and quality assurance program fully stabilized over the past two years.** Full support of all the region's manufacturers, combined with increases in the number of SGC/NC homes produced and increases in the fee schedule to $100 per home, has left the program on its most solid footing of the past seven years.

6. **Major challenges lie ahead for the NEEM program and the Alliance concerning the branding approach for energy-efficient manufactured housing.** At the end of 2004, the SGC master license expires, and the ENERGY STAR

specification will be revised. The ENERGY STAR specification will have to be renegotiated with the EPA, who has indicated it will no longer support an electric-resistance path in the Northwest, thus eliminating forced-air electric furnaces from the program. A negotiating team, representing the region's energy planners and the Alliance, is preparing to work through these issues with the EPA. The outcome of these negotiations will have a profound impact on the branding strategies used to promote energy-efficient manufactured housing in the Northwest.

7. **Improvements to the SGC specifications, made by the NEEM team, have positive market transformation implications.** Industry acceptance on the use of mastics was a key accomplishment, along with tightening of the ventilation specification. The trend toward duct blasting by the factories is another important indicator that this industry is serious about energy efficiency, and that the state energy offices' efforts are delivering results. Although the Alliance had no direct role in these developments, it was the Alliance's regional role in developing PTCS duct sealing and including duct sealing in the ENERGY STAR Northwest Site-Built BOP, that helped support the states in their push for a more stringent specification.

B. Conclusions

1. **Regional support for SGC manufactured housing is at the highest level since MAP, even though the industry remains in a slump.** The Alliance strategy to transition to utility resource acquisition programs has made a significant contribution toward this result. It effectively recruited interested utilities to support SGC/ES, leveraged financial resources from BPA (C&RD), encouraged manufacturers to build SGC/ES homes, and re-established relations with the NEEM program. The coordination function established by the Alliance between the utilities, NEEM, and the manufacturers has become an essential element of the regional NEEM program, and appears to be highly valued by stakeholders.

The NEEM program, responsible for SGC certification and quality assurance, is self-sustaining. The NEEM team has worked hard to gain the trust and support of the industry, which has responded by getting fully behind the program. The fees paid by the industry have enabled the program to become self-sustaining. An indicator of this is the recent expansion of the program to fund a marketing consultant.

2. **Branding issues associated with energy-efficient manufactured housing in the Northwest have reached a critical transition point.** At the end of 2004, the SGC master license expires, and the ENERGY STAR specification will be revised. The EPA has indicated a preference to eliminate the electric-resistance heat path for ENERGY STAR manufactured homes. Aside from the challenges this poses for the NEEM program and the region's energy planners, the uncertainty surrounding future branding is problematic for manufacturers, who have no confirmation of a brand or specification to build to beginning in 2005.

   Should the region's negotiators be successful and allowed to retain forced-air electric resistance heat on the west side of the Cascades, the appeal of the ENERGY STAR brand to manufacturers will be strengthened. However, if negotiators do have to switch to a heat pump specification for the west side, it will likely result in an industry departure from ENERGY STAR branding, as manufacturers may lose interest and fall back to SGC specifications (assuming the SGC license is maintained). To keep the electric-resistance, forced-air furnace option, the NEEM team's technical consultant will have to demonstrate achievement of an 86 HERS score without the aid of a heat pump. This may require manufacturers to move to better windows and tighter ductwork. Some manufacturers may be unwilling to go this far due to the cost impacts, and may say SGC is good enough.

C. Recommendations

The Alliance has already played a significant role in the development of the energy-efficient manufactured housing market in the region. The current negotiation with EPA presents an opportunity for the Alliance to continue its efforts in this market. The following steps should also be considered:

1. The Alliance should support a solution that would allow unified ENERGY STAR branding of new homes for both site-built and manufactured housing, and should work to align elements of the site-built *ENERGY STAR Homes Northwest BOP* specification with a new ENERGY STAR manufactured housing specification.

2. The Alliance should continue to provide facilitation and coordination assistance to the NEEM negotiating team, utilities, and manufacturers, as they work through the negotiation process with the EPA on a new ENERGY STAR specification for manufactured housing. The Alliance should ensure coordination with stakeholders to determine their level of interest and buy-in. Once a new ENERGY STAR BOP specification is established, the Alliance may need to meet with the region's utilities and manufacturers to determine their level of support for the ENERGY STAR specification and brand in the region. This interaction should also help to clarify the level of any continued involvement by the Alliance in the program.

3. Additional research conducted on utilities, manufacturers, and dealers may prove useful in informing decision-makers about branding issues.

5. KEY FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

APPENDICES

Super Good Cents/ENERGY STAR Program Manufactured Homes Utility Support and Participation

IDAHO

UTILITY	INCENTIVE	UTILITY CONTACT
CLEARWATER POWER COMPANY **LEWISTON**	$500 to the buyer and site inspection by utility	Bob Pierce (208) 798-5203
CITY OF DECLO **DECLO**	$500 to the buyer, $100 to the sales consultant	Don Dean (208) 679-2222
EAST END MUTUAL ELECTRIC **RUPERT**	$500 to the buyer, $100 to the sales consultant	Don Dean (208) 679-2222
FALL RIVER ELECTRIC COOPERATIVE, INC. **ASHTON**	$1,000 to the buyer	Suzette Bollinger (208) 652-7431
FARMERS ELECTRIC COMPANY **RUPERT**	$500 to the buyer, $100 to the sales consultant	Don Dean (208) 679-2222
CITY OF HEYBURN **HEYBURN**	$500 to the buyer, $100 to the sales consultant	Don Dean (208) 679-2222
IDAHO FALLS POWER **IDAHO FALLS**	$500 to the buyer, $100 to the sales consultant	Van Ashton (208) 529-1443
IDAHO POWER **BOISE/TWIN FALLS/POCATELLO**	$300 to the buyer, $75 to the sales consultant	Annie Tucher (208) 388-2346
KOOTENAI ELECTRIC COOPERATIVE **HAYDEN**	$1,000 to the buyer	Peter Anderson (208) 765-1200
LOST RIVER ELECTRIC COOPERATIVE **MACKAY**	$500 credit on the customer's utility bill	Bo Betzer (208) 588-3311
NORTHERN LIGHTS, INC. **SAGLE/BONNERS FERRY/ SANDPOINT**	$1,000 to the buyer and $100 to the sales consultant	Elissa Glassman (208) 263-5141
CITY OF RUPERT **RUPERT**	$500 to the buyer, $100 to the sales consultant	Don Dean (208) 679-2222
CITY OF SODA SPRINGS **SODA SPRINGS**	$500 to the buyer, $100 to the sales consultant	Blake Poulsen (208) 547-2600
UNITED ELECTRIC COOPERATIVE **HEYBURN**	$500 to the buyer, $100 to the sales consultant	Don Dean (208) 679-2222

MONTANA

UTILITY	INCENTIVE	UTILITY CONTACT
FLATHEAD ELECTRIC COOPERATIVE **KALISPELL**	$1,000 to the buyer and $150 to the sales consultant	Ross Holter (406) 751-4433
LINCOLN ELECTRIC COOPERATIVE **EUREKA**	$1,000 to the buyer and $150 to the sales consultant	Tim Engleson (406) 889-3301
STATE OF MONTANA **HELENA**	Tax credit – 25% up to $500 for each Super Good Cents®, Natural Choice™ or ENERGY STAR® Manufactured Home	Paul Tschida Montana DEQ (406) 444-6864
MISSION VALLEY POWER **PABLO**	$1,000 to the buyer and $150 to the sales consultant	Lyle Neiss (406) 883-7910
NORTHERN LIGHTS, INC. **TROY/NOXON/THOMPSON FALLS**	$1,000 to the buyer and $100 to the sales consultant	Elissa Glassman (208) 263-5141

NEVADA

UTILITY	INCENTIVE	UTILITY CONTACT
WELLS RURAL ELECTRIC **WELLS**	$1,000 to the buyer and $150 to the sales consultant	Tommi Reynolds (775) 752-3328

OREGON

UTILITY	INCENTIVE	UTILITY CONTACT
CITY OF ASHLAND **ASHLAND**	$600 to the buyer and $100 to the sales consultant	Cathy Cartmill (541) 552-2063
BLACHLY-LANE COUNTY COOPERATIVE ELECTRIC ASSN **EUGENE**	$400 credit on the electric bill to the buyer. Other incentives available for energy efficient appliances	Joe McFadden (541) 688-8711
CLATSKANIE PUD **CLATSKANIE**	$1,000 to the buyer and $100 to sales consultant	Paul Skarra (503) 728-2163
COLUMBIA RIVER PUD **ST. HELENS**	$700 to the buyer and $100 to the sales consultant	Brent Barclay (503) 366-3253

Continued

UTILITY	INCENTIVE	UTILITY CONTACT
CONSUMERS POWER INC. **PHILOMATH**	$500 to the buyer. Other incentives available for energy efficient appliances	James Ramseyer (541) 929-8531
COOS CURRY ELECTRIC COOPERATIVE **BROOKINGS – SW OREGON**	$400 credit on the electric bill to the buyer	Don Jenson (541) 469-0700
DOUGLAS ELECTRIC COOPERATIVE **ROSEBURG**	$300 credit on the electric bill to the buyer and $100 to the sales consultant	Todd Munsey (541) 673-6616
EMERALD PUD **EUGENE**	$200 to the buyer	Joe Savage (541) 744-7448
EUGENE WATER & ELECTRIC BOARD (EWEB) **EUGENE**	$600 credit on the electric bill to the buyer and $100 to the sales consultant	Gary Harlan (541) 484-1125
IDAHO POWER **ONTARIO/NYSSA/VALE**	$300 to the buyer, $75 to the sales consultant	Annie Tucher (208) 388-2346
LANE ELECTRIC COOPERATIVE **EUGENE**	$500 to the buyer	John Murray or Randy Boyd (541) 484-1151
MCMINNVILLE WATER AND LIGHT **MCMINNVILLE**	$600 to the buyer	David Christie (503) 472-6158
MIDSTATE ELECTRIC COOPERATIVE **LAPINE**	$500 to the buyer	Teresa Lackey (541) 536-7232
MILTON-FREEWATER CITY LIGHT AND POWER **MILTON-FREEWATER**	$500 to buyer; other incentives available for energy efficient appliances	Pat Didion (541) 938-5531
PORTLAND GENERAL ELECTRIC **PORTLAND**	PGE offers a variety of sales consultant and homeowner incentives for their Earth Advantage™ home	Randy Hansell (503) 603-1649
SALEM ELECTRIC **SALEM**	$500 to the buyer; other incentives available for energy efficient appliances	Jeff Lewis (503) 362-3601
SPRINGFIELD UTILITY BOARD (SUB) **SPRINGFIELD**	$600 to the buyer and $100 to the sales consultant	Keith Lockhart (541) 746-8451

Continued

UTILITY	INCENTIVE	UTILITY CONTACT
TILLAMOOK PUD **TILLAMOOK**	$1,000 to the buyer	Dave Wimpy (503) 842-2535
WASCO ELECTRIC COOPERATIVE **THE DALLES**	$500 to the buyer	Jeff Davis (541) 296-5051

WASHINGTON

UTILITY	INCENTIVE	UTILITY CONTACT
BLAINE CITY LIGHT **BLAINE**	$1,000 to the buyer	Grant Stewart (360) 332-8820
CITY OF CHENEY **CHENEY**	$1,100 to the buyer and $200 to the sales consultant	Charlie Weber (509) **498-9241**
CITY OF CHEWELAH **CHEWELAH**	$200 to the buyer plus $100 for qualifying ENERGY STAR® appliances	David Park (509) 935-8311
CLALLAM COUNTY PUD **PORT ANGELES**	$500 to buyer	Dave Johnson (360) 565-3253
CLARK PUBLIC UTILITIES **VANCOUVER**	$750 to the buyer and $100 to sales consultant	Fred Tulp (360) 992-3345
COLUMBIA RURAL ELECTRIC ASSOCIATION **DAYTON**	Up to $900 in energy credits toward construction of a new service that will supply electricity to a new SGC site built or manufactured home	Dave Reller (509) 382-2578
FERRY COUNTY PUD **REPUBLIC**	$1,000 to the buyer with on-site verification of heat source and SGC	John Friederichs (509) 775-3325
FRANKLIN PUD **PASCO**	$500 to the buyer	Todd Blackman (509) 546-5946
GRAYS HARBOR PUD **ABERDEEN**	$500 to the buyer and $50 to the sales consultant	Doug Smith (360) 538-6508
LAKEVIEW POWER AND LIGHT **LAKEWOOD**	$1,000 to the buyer and $150 to the sales consultant	Mindy McKillip (253) 584-6060
LEWIS COUNTY PUD **CHEHALIS**	$900 to the buyer	Norm Goodbla (360) 740-2430
		Continued

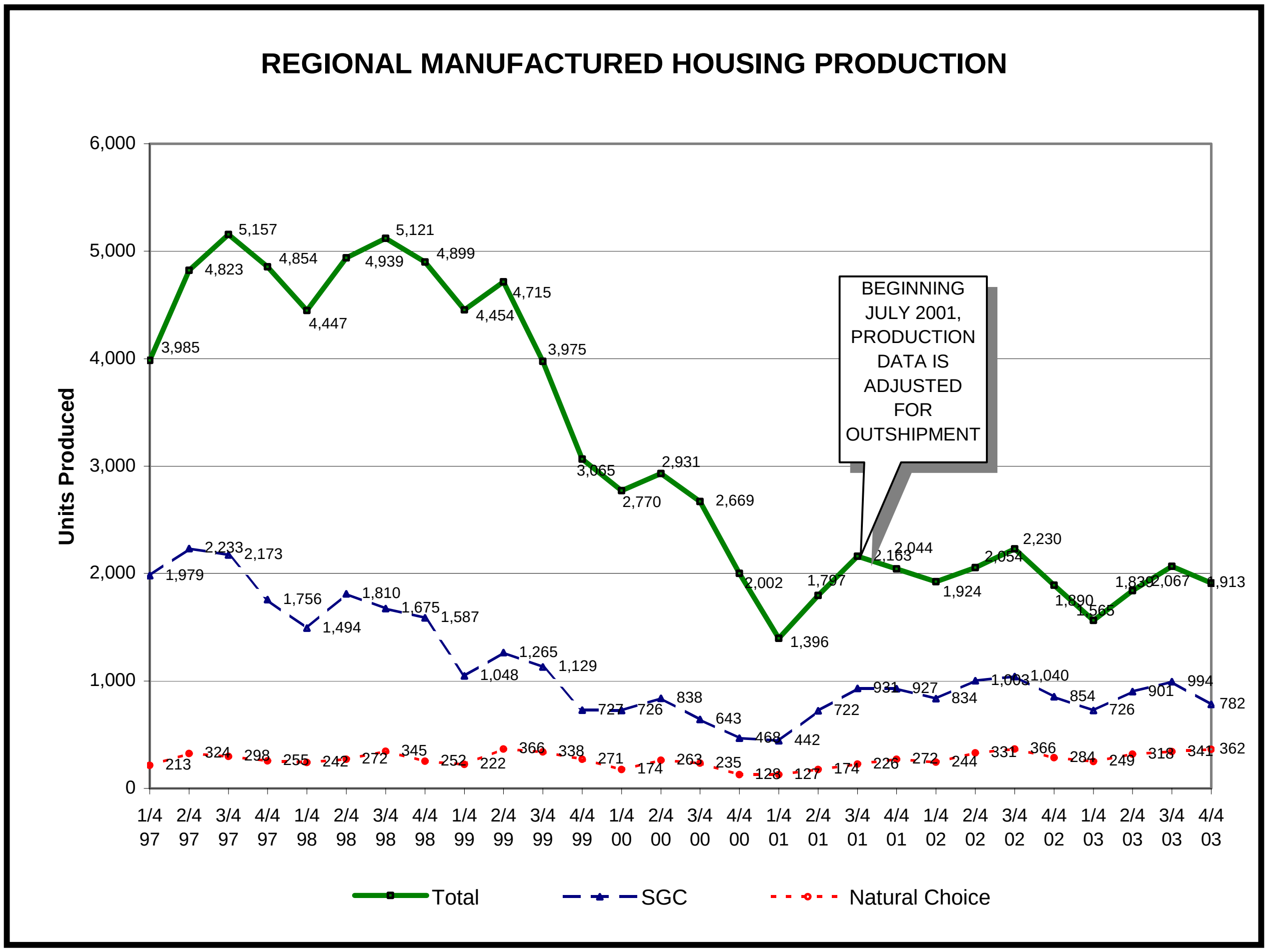
UTILITY	INCENTIVE	UTILITY CONTACT
MASON COUNTY PUD #1 **SHELTON**	$500 to the buyer and $75 to the sales consultant	Debbie Knipschield (360) 877-5249
MASON COUNTY PUD #3 **SHELTON**	$500 to the buyer and $75 to the sales consultant. Free on-site inspection offered by the utility.	Jay Himlie (360) 426-8255 x5280
OHOP MUTUAL LIGHT CO. **EATONVILLE**	$100 to the buyer. Utility provides site inspection	Jim Fields (253) 847-4363
OKANOGAN COUNTY PUD **OKANOGAN**	$600 to the consumer and $150 to the sales consultant	Debra Peters (509) 422-8427
ORCAS POWER & LIGHT COOPERATIVE **EASTSOUND**	$300 to the buyer and $100 to the sales consultant	Martha Warachowski (360) 376-3571
PACIFIC COUNTY PUD **RAYMOND**	$500 to the buyer and $100 to the sales consultant	Jim Dolan or Lori Holmes (360) 942-2411
PEND OREILLE COUNTY PUD **NEWPORT**	$600 to the buyer of a single-wide, $800 to the buyer of a multi-wide	Marty Robinson (509) 447-3137x343
CITY OF PORT ANGELES **PORT ANGELES**	$1,000 to the buyer	Bob Kajfasz (360) 417-4718
PUGET SOUND ENERGY **BELLEVUE**	$300 to the buyer of a Super Good Cents® / ENERGY STAR® Home or $150 to the buyer for Natural Choice™ home	Energy Efficiency Advisor - call (800) 562-1482 option 1
TOWN OF STEILACOOM **STEILACOOM**	$1,000 to the buyer and $100 to the sales consultant	Terry Huber (253) 581-1912
SUMAS WATER & LIGHT **SUMAS**	$100 to the buyer	Rod Faddon (360) 988-5711
TACOMA POWER **TACOMA**	$750 to the buyer and $100 to the sales consultant	Bill Hogan (253) 502-8278

WYOMING

UTILITY	INCENTIVE	UTILITY CONTACT
LOWER VALLEY ENERGY **AFTON**	$500 to the buyer	Chad Jensen (307) 885-3175

Please note: This list of utility incentives is updated regularly throughout the year, however, utility incentive programs can change at any time – please contact your utility to confirm the incentive listed is current and available.

REGIONAL MANUFACTURED HOUSING PRODUCTION FROM 1997 THROUGH 2003



Cost Effectiveness Summary
for
SGC Manuf - Drop Sorta Smaller Market zero growth

Creation Date	February 26, 2000
ProCost Ver.	4.10
Run Date	March 1, 2004
Analyst	Ken Anderson

Project Number: C97-012
Sector: Residential
Stage: AR-2003 MPER-4

Key Assumptions		Analysis Unit:	Weighted Home
Duration:	Venture Period: 7 years	Project Start:	1997
	Ann Non-Electric Benefits: $0.00	an. Net O&M Cost:	$0.00 Per Unit

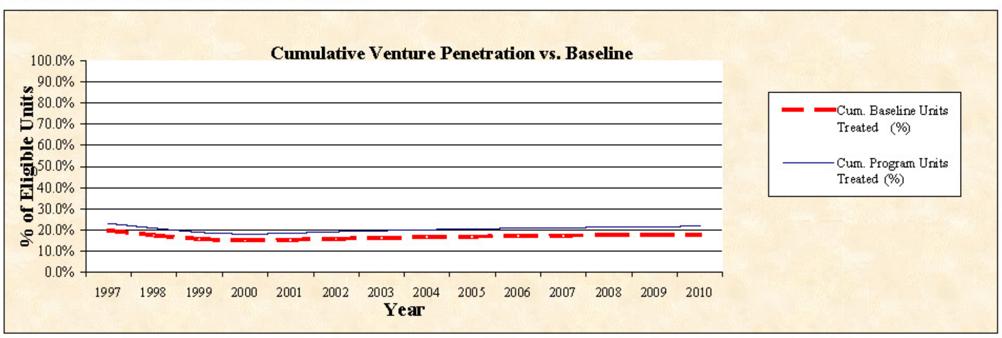
Venture Cost Summary	Period	Venture Costs	Consumer Costs	Other Costs	Total Costs
1997	Venture	$279,863	$4,938,357	$272,198	$5,490,418
1998	Venture	$473,404	$4,074,269	$332,198	$4,879,870
1999	Venture	$539,075	$2,586,906	$332,198	$3,458,179
2000	Venture	$634,598	$1,659,864	$342,864	$2,637,327
2001	Venture	$828,960	$1,868,356	$302,864	$3,000,180
2002	Venture	$194,200	$2,298,369	$402,864	$2,895,433
2003	Venture	$114,000	$2,274,324	$302,864	$2,691,189
2004	Post-venture	$0	$2,274,324	$304,184	$2,578,509
2005	Post-venture	$0	$2,274,324	$305,544	$2,579,868
2006	Post-venture	$0	$2,274,324	$306,944	$2,581,269
2007	Post-venture	$0	$2,274,324	$308,387	$2,582,711
2008	Post-venture	$0	$2,274,324	$309,872	$2,584,197
2009	Post-venture	$0	$2,274,324	$311,403	$2,585,727
2010	Post-venture	$0	$2,274,324	$312,979	$2,587,303
Totals		$3,064,100	$35,620,715	$4,447,363	$43,132,178

Assumptions:

AAA2001, Local utility dollars The old analysis used manufactured housing starts from the NPPC medium (2.4%) forecast but actual data in 1997 and 1998 was as much as 15% lower. Starting with 14,000 units in 1999 the manufacturered homes forecast was re-estimated to grow at 2.4% until it reached an annual production of 18,600 units in 2010. Of the total manufactured homes in 1990, 95+% were electric; but by 1997 electric dropped to 88.2%. The model assumes 85% electric for 1999 and all succeeding years. SGC and NC homes were about 37% of the market in 1999. The proposed program intends to grow the SGC/NC market share to 55% by 2010. In 2010 there are 7,650 SGC homes--4,800 venture SGC and 2,850 baseline SGC. There are also 3,600 Sorta SGC homes which are better than 1995 current practice but not up to SGC standards. An Ecotope survey suggests that Sorta SGC units are about 23% of the electric manufactured homes each year. Over the entire period 1997 to 2010--230,000 manufactured. homes are built--196,000 being electric. Of these the venture SGC and Sorta SGC accumulate to a total of 85,000 participants (43,000 venture SGC and 42,000 Sorta SGC). Energy savings for venture SGC and Sorta SGC are based on their increment above 1995 Current Practice not the current 1994 HUD standard. (1994 HUD Uo=0.079 uses 11,447 kWh/Yr; 1995 Current Practice Uo=0.068, 9,435 kWh/Yr; Sorta SGC Uo=0.062. 8,329 kWh/Yr; and SGC Uo=0.051, 6,343 kWh/Yr). Consumer costs are based on retail incremental prices--Sorta SGC = $439.25 and SGC = $1,128.20. Energy savings for Sorta SGC is 1,106 kWh/yr and SGC is 3,092 kWh/Yr, for a weighted average 2,112.1 kWh/year. Other costs above include Utility $480,000 NW Natural and local electrics equal total Alliance; Government includes $903,263 for BPA, USDOE, etc.. Venture costs include $140,000 Alliance admin, $2,637,000 contract and $250,000 for evaluation.

Non-electric Benefits and Net O&M Cost Assumptions:

□ No non-electric benefits or net O&M costs assumed.



CE Summary, CE-C97-012-SGC-MH-MAR-2003-MPER-4-5-7.xls Page 1 of 2

Key Findings:

Estimated Cumulative Electrical Energy Savings

Year	Period	Cumulative aMW Savings
1997	Venture	1.5
1998	Venture	2.8
1999	Venture	3.6
2000	Venture	4.1
2001	Venture	4.7
2002	Venture	5.5
2003	Venture	6.2
2004	Post-venture	6.9
2005	Post-venture	7.6
2006	Post-venture	8.3
2007	Post-venture	9.0
2008	Post-venture	9.7
2009	Post-venture	10.4
2010	Post-venture	11.1

ProCost Results:

Total Resource Perspective	Unit First Cost	Annual Unit Savings (kWh)	Levelized Cost (Cents/kWh)	CE Index* (Benefit/Cost Ratio)
Venture + Post-Venture Period	$1,366.11	3,092.0	1.76	**1.3**
Venture Period Only	$1,434.71	3,092.0	1.87	1.3
Alliance Perspective	**Unit First Cost**	**Annual Unit Savings (kWh)**	**Levelized Cost (Cents/kWh)**	**CE Index* (Benefit/Cost Ratio)**
Venture + Post-Venture Period	$97.05	3,092.0	-0.31	18.9
Venture Period Only	$175.47	3,092.0	-0.18	10.5

* If CE Index for Total Resource Perspective and Venture + Post-venture Period is greater than 1.0, then project is deemed cost effective.

Consumer Perspective

Scenario	Simple Payback in Years @ 5.0 cents/kWh	@ 3.0 cents/kWh
Simple Payback (Yrs) Electricity Savings Only	6.081	9.122
Simple Payback (Yrs) Elec + Non-elec - O&M cost	6.081	9.122

Key Changes

Change from AAA2000 to include local utility equal to Total Alliance

0.7790223 kWp/Unit January Peak Demand reduction

D:\DATA\Gary Smith\SGC Manufactured Housing\030504_SGC_MPER_Final\[CE-C97-012-SGC-MH-MAR-2003-MPER-4-5-7.xls]Input Assumptions
5/22/2004

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