

Manufactured Housing in the Pacific Northwest: Moving from the Region's Largest Utility-Sponsored Market Transformation Venture to an Industry Marketing Program

**Ken Eklund, Idaho Department of Water Resources Energy Division
Tom Hewes, Oregon Department of Energy
Tom Lineham, Washington State Energy Office
Mike Lubliner, Washington State Energy Office**

The manufactured home industry in the Pacific Northwest has been transformed from building and marketing a very inefficient product (U_e .092) to a very efficient one (U_e .053) through a long term effort by Bonneville Power Administration (BPA), utilities, manufacturers, retailers and the state energy offices (SEOs) of Idaho, Montana, Oregon and Washington. BPA and Pacific Northwest utilities spent over \$100 million on this effort, but risked losing this investment when they ended the Manufactured Housing Acquisition Program (MAP) nine months early without a developed strategy to continue and sustain this market transformation.

The Pacific Northwest's manufactured home construction industry recognized the marketing advantage in building and selling independently certified, energy-efficient homes. It responded to MAP's early termination by creating, in conjunction with the SEOs of Idaho, Oregon and Washington, an industry funded program to continue production of homes built to the MAP standard of energy efficiency.

This new Northwest Energy-Efficient Manufactured Home™ (NEEM™) program is fuel blind, and, unlike MAP where utilities paid for energy conservation measures, consumers pay all the conservation costs.

Under NEEM™'s consumer-based approach, participation is still about 75 percent of total regional production during the first five months of the program—and NEEM™ exerts market pressure that boosts the energy efficiency of homes not built to program standards. Pacific Northwest utilities' costs for promoting the NEEM™ program are 98 percent lower than their MAP costs.

INTRODUCTION

The Pacific Northwest's manufactured housing industry is a prime example of transforming an entire competitive production and marketing system to build and sell more energy-efficient products. This change took place because of a utility and government effort to acquire energy savings, and the desire of the manufactured housing industry in the Pacific Northwest to build and sell more energy-efficient homes, even after utilities stopped paying the costs of energy conservation measures. The significance to the Pacific Northwest region is great because the manufactured home industry produces about 18,000 new homes per year, or about one-third of the Pacific Northwest region's new single-family homes. These could be built to a much less energy-efficient 1994 HUD Code (Federal Manufactured Housing Construction Safety Standards promulgated by the U.S. Department of Housing and Urban Development in October 1994).

HISTORY OF MANUFACTURED HOME MARKET INTERVENTION IN THE PACIFIC NORTHWEST

The technical feasibility of upgrading the thermal performance of manufactured homes from the conventional practice of the mid-1980s (R11 to R19 walls, R7 to R11 floors, U.87 windows, R14 to R22 ceiling) (Harkreader, Lee & Sherman 1987) was demonstrated to the manufacturers through the Residential Conservation Demonstration Program (RCDP). Funded by the Bonneville Power Administration (BPA) and implemented by the SEOs of Washington and Oregon, RCDP established specifications for energy-efficient construction, assisted in solving construction problems, submetered 150 homes for space and water heating electricity consumption, and collected cost data on energy conservation measures. Technical analysis was performed by Ecotope, Inc. of Seattle (Baylon et al. 1991).

Market demand for energy-efficient manufactured homes in the Pacific Northwest region was created by the first Super Good Cents® (SGC®) Manufactured Home (MH) Program. Begun in 1988, the SGC® MH Program gained 20 percent of the new manufactured home market across the Pacific Northwest Region. In this program, energy specification varied according to climate severity, and utilities paid home buyers substantial incentives to purchase energy-efficient models, ranging from \$2,000 in the warmest climate zone to \$3,000 in the coldest zone, once homes were properly installed on site. Manufacturers in Idaho joined those in Oregon and Washington in producing SGC® homes. BPA funded the program; the SEOs of Idaho, Montana, Oregon and Washington implemented it. Idaho Power Company's Idaho and Oregon service areas were not covered by the first SGC® program, although Idaho Power Company did have its own Good Cents® program for manufactured homes.

By 1989 the states of Oregon and Washington had high efficiency energy codes in place for new site-built homes. Idaho had 44 jurisdictions covering 1/3 of the state's construction with similarly high standards. The region's 18 (at the time) manufactured home builders, with approximately 20 percent of the new single-family home market, faced this competition with a product that was, except for SGC®, inferior in energy efficiency.

As the first SGC® MH Program continued to April 1992, it stimulated innovative solutions to technical problems including:

- high R value floor insulation systems that include duct-work inside the conditioned envelope;
- attic ventilation in complex roof systems; and
- high efficiency windows for manufactured homes.

Prior to the first SGC® MH program, the Pacific Northwest's manufactured housing industry window suppliers, produced solid aluminum-framed, double-glazed windows with a U factor of .87. Now these window manufacturers build and sell U.35 windows, with vinyl frames and argon-filled low E double glass, for an average wholesale cost to the manufactured housing industry of \$6.95 per square foot. The production capability of manufactured home window manufacturers also helped transform the site-built window market in the Pacific Northwest to sell a more energy-efficient product.

By April 1992, the manufacturers reached agreement with the region's public and investor-owned utilities to build all electrically heated homes to the rigorous standards required in the coldest regions by the first SGC® MH program. A unified energy-efficient standard was needed because manufactured homes are transported from the place of construc-

tion to every part of the region, and it was not feasible to include all homes, especially dealer display stock, in the program if it retained three different standards determined by climate zone.

MAP, negotiated by staff for the Northwest Power Planning Council with assistance from the Washington Manufactured Housing Association, coordinated by BPA, and implemented by the SEOs of Idaho, Montana, Oregon and Washington, produced between 50,000 and 60,000 energy-efficient homes in the 40 months before production ended in Summer 1995. The joint utility investment was approximately 100 million dollars. The original program was designed to run 48 months before changing into a program to maintain the production and sale of energy-efficient manufactured homes. Instead MAP was terminated early after the withdrawal of the two largest investor-owned utility participants, representing 50 percent of the MAP home sitings—without a developed plan to ensure energy-efficient manufactured homes would continue to be produced and sold. The long term investment in transforming the manufactured housing market to higher energy standards was at risk.

THE NORTHWEST ENERGY EFFICIENT MANUFACTURED HOME™ PROGRAM

The decision by BPA to terminate MAP sent shock waves through the Pacific Northwest's manufactured housing industry. In Oregon and Washington, 14 manufacturers built over 90 percent of their product to MAP standards. In Idaho five manufacturers dedicated between 60 and 70 percent of their production to MAP homes. Participating manufacturers in California and Nebraska also felt the impact. Estimated payments of \$14 million from utilities to manufacturers during the terminated part of MAP were lost.

Perhaps more importantly, a marketing program which had helped the manufactured housing industry capture 18 percent more of the Pacific Northwest region single-family home market from site-built construction and increase to a total 38 percent market share was ending without a plan to keep these gains. The region's 547 manufactured home dealers were concerned they would lose SGC® as a marketing tool.

The homes the industry built under MAP were far different from those built at the beginning of utility intervention in the manufactured home market in 1987. The windows were more than twice as efficient, and their vinyl frames looked more substantial than thin aluminum. The homes had three times more floor insulation, more wall and ceiling insulation, air leakage control and good ventilation. During this time the industry improved its homes in other ways—adding

vaulted dormers, tape and texture interiors with curved corners, and multi-section interiors with large open spaces.

Because MAP homes were marketed under the SGC® trademark, these changes were identified by dealers and home buyers with SGC®, whether they related to energy efficiency or not. The leaders of the Pacific Northwest's manufactured housing industry agreed that the energy efficiency programs enhanced the image of manufactured homes and increased their market share against site-built homes (Mix 1996). The question asked by the Pacific Northwest manufactured housing industry in the spring of 1995 was how to keep this market momentum going.

When negotiations for continuation of MAP fell apart in the fall of 1994, the staff at the Oregon Department of Energy (ODOE) concluded that a utility-sponsored manufactured home program was no longer a viable alternative, because Pacific Northwest electric utilities could no longer afford to invest large sums in energy efficiency. As utilities restructured to operate in a more competitive environment created by the Energy Policy Act of 1992, they eliminated expensive demand-side management programs like MAP.

Through a series of conversations with each of the general managers of the eleven Oregon manufacturing plants, the staff at ODOE and the Oregon industry decided to propose an Oregon certification program that could be used as a model for a regional program if Idaho and Washington obtained participation of their manufacturers. The Oregon Manufactured Housing Association and the Oregon Building Codes Division, which inspects the homes during manufacture, agreed that Oregon needed an energy efficiency certification program because:

- the manufactured housing industry needed a standard that would meet current site-built residential energy codes in order to qualify manufactured homes for entry into Oregon site-built neighborhoods pursuant to Oregon state law;
- Oregon home buyers needed to be able to choose a certified energy-efficient manufactured home which could be sited anywhere in Oregon;
- the manufactured housing industry needed the legitimacy provided by independent certification in order to compete with site-built homes;
- when BPA announced that MAP production would end on July 31, 1995, manufacturers were already taking orders for certified energy-efficient manufactured homes to be built after MAP termination; and
- the industry and the public needed a common standard for energy-efficient manufactured homes, because otherwise manufacturers could market their product as energy-efficient by their own definition, which might be only a slight upgrade from the 1994 HUD Code minimum energy standard (U_o .079).

Because manufacturers in California, Idaho and Washington all ship homes into Oregon, these issues were just as important for them as they were for Oregon manufacturers. All manufacturers building for the Oregon market needed a common energy efficiency construction standard that was uniformly certified and enforced.

Electrically Heated Homes

ODOE proposed to acquire the rights to the SGC® trademark from Southern Development International (SDI) and sublicense them to the Oregon manufacturers. After negotiating the cost of license to use the SGC® mark and the services needed to meet license conditions, the Oregon manufacturers entered into agreement to pay ODOE \$30 per home. ODOE then sublicensed the SGC® trademark to the Energy Division of the Idaho Department of Water Resources (IDWR) and the Washington State Energy Office (WSEO) which entered into similar agreements with the manufacturers in their states.

The sublicenses required each manufacturer to:

- request certification of each home using a computerized application system to supply customer information, serial number, floor, wall, window, and skylight areas, and component R values and U factors;
- build certified homes in accordance with the MAP technical specifications;
- ship material for sealing the joint between sections of multi-section homes and high R value flexible duct and connectors for joining the heating distribution systems in multi-section homes;
- sign and attach a SGC® label near the electrical panel and send a signed certificate of compliance with each certified house;
- comply with the terms of the SGC® license agreement;
- correct any energy-related problem identified by the state energy office (SEO) or the homeowner that is under manufacturer's warranty;
- permit the SEO to conduct quarterly in-plant reviews;

- correct any energy-related problem identified by the in-plant inspector or by the SEO in a quarterly review; and
- accept and abide by penalties for noncompliance (each state's manufacturers and SEO developed their own penalty system).

As the enforcer of the sublicenses, the SEOs agreed to:

- use the MAP technical specifications as the basis for the program and not to modify or amend without manufacturer concurrence;
- certify each home;
- arrange in-plant inspection for compliance with the technical specifications;
- provide a sublicense for use of the SGC® trademark;
- provide on-site technical assistance and problem resolution on energy-related issues to manufacturers, retailers, home buyers, utilities and local building departments;
- work for, but not guarantee, acceptance of certified homes for utility rebate programs and building code requirements;
- develop and administer a computerized application and tracking system;
- provide a toll-free number for consumer and manufacturer inquiries;
- perform in-plant quarterly reviews to help ensure quality assurance and consistent implementation of the program's technical specifications; and
- work with manufacturers to develop penalties for non-compliance.

Combustion Fuel Heated Homes

The new program was called the Northwest Energy Efficient Manufactured Home™ (NEEM™) Program. Unlike MAP, which applied only to electrically heated homes, NEEM™ is fuel blind. NEEM™ has a trademark separate from SGC® for combustion-fueled homes. Northwest Natural Gas Company, an Oregon utility, licensed the SEOs to sublicense its Natural Choice™ trademark to manufacturers for natural gas and propane heated manufactured homes built to the MAP standard.

2.66 - Eklund, Hewes, Lineham, and Lubliner

In addition to requiring that homes meet the MAP standards for envelope efficiency, the Natural Choice™ trademark license adds minimum furnace and water heater efficiency levels. Furnaces must have an AFUE of .80 or better and water heater energy factors must be at least .60 or greater. The license also requires piping stubs for gas clothes driers and cooking stoves.

Funding

Program operation is funded differently in the three states, though in each state manufacturers pay \$30 per home to the SEO for certification and licensing services regardless of the home's heating system or trademark. ODOE's entire operating cost for the program is paid by this fee due to the large volume of NEEM™ homes produced in Oregon. In Idaho, which produces one-third as many homes as Oregon, IDWR depends on a combination of support from manufacturers, BPA and the investor-owned utilities that serve the state—Idaho Power Company, PacifiCorp, and Washington Water Power. WSEO likewise combines manufacturer fees and support from the four largest investor-owned utilities and BPA.

The total expended by the utilities for one year of NEEM™ is approximately \$680,000, compared to over \$33 million spent annually for MAP. Utility cost for energy-efficient manufactured homes has dropped 98 percent under NEEM™. It is unclear whether BPA and the utilities will continue to invest even this low amount in maintaining the market for energy-efficient manufactured homes after June 1997, because of the concept that utility participation in market transformation ventures is terminated by exiting the market.

Marketing the NEEM™ Program

Although each state has a unique marketing situation, it can be generally said that the market for NEEM™ homes is eroding at the lower cost end. In Oregon and Washington, the mid-to-high-priced manufactured homes compete against site-built homes which are built to high efficiency energy codes. But the low end is the traditional manufactured home market which competes on price alone. Because home buyers pay the increase in price (\$600 to \$1,500) for homes certified and built to be more energy-efficient, homes built to a lesser standard have a market advantage.

This erosion in the low end market is unfortunate for several reasons. First, these buyers are those who benefit most from lower heating bills. Second, the image of the manufactured housing industry declines when homes are built to lower standards and sold on price alone (Mix 1996). Third, this is a lost energy conservation opportunity for homeowners

as well as utilities. Fourth, these homes are more likely to produce high bill complaints and default in utility bill payment. Lastly, these homes are likely to be weatherized some day at public expense, which is always more costly than building the home with these measures.

Oregon

In Oregon the market is driven by local implementation of the Oregon “infill” statute, ORS 197-307. This law requires jurisdictions to provide for siting of manufactured homes within their boundaries in existing neighborhoods, but allows cities and counties to condition such siting on manufactured homes meeting the state energy standard for single-family residences. Because dealers want their homes to be sited anywhere in Oregon, their best choice is to sell SGC® or Natural Choice® homes to Oregon buyers.

There are parts of Oregon where the infill requirements have not been implemented. In these areas, some manufacturers are promoting non-program homes. In March 1996, ODOE developed and began distributing a marketing brochure that features “Comfort You Can Count On” to help home buyers make an informed choice.

Idaho

Idaho is the most complex market, because dealers have not remained loyal to the certified energy-efficient product. Market research conducted in November 1995 by Pacific Northwest National Laboratory (PNNL) for BPA demonstrates that some Idaho dealers actively market against NEEM™. In one case, the price discrepancy between NEEM™ and the standard option package was used to offset increased transportation cost of shipping homes into Idaho from Oregon (Duffy 1995). In a January 1996 association newsletter, Gub Mix, the Executive Director of the Idaho Manufactured Housing Association (IMHA), blamed a 42 percent drop in Idaho manufactured home sales during 1995, as compared to 35 percent increase in site-built sales, on this market confusion (Mix 1996).

To counter this trend, IMHA developed a promotional brochure to help NEEM™ homes compete against both non-program manufactured homes and site-built homes. IDWR staff visited every dealer in Idaho to market NEEM™ and distribute IMHA and BPA brochures. In Spring 1996, three Idaho cooperative electric utilities offered cash incentives up to \$500 to purchasers of SGC® MH program homes. These initiatives appear to be resulting in higher NEEM™ sales. The ratio of Idaho NEEM™ homes to total Idaho production shipped to the Pacific Northwest increased from the 40 percent shown in Table 1-1 to 50 percent in April, 1996 (Minter 1996).

Washington

Washington sites 40 to 45 percent of the manufactured homes in the Pacific Northwest region. NEEM™ sales are driven mostly by retailers and buyer demand with some help from utilities. When BPA announced the premature end of MAP, concern arose over whether Washington state electric utilities would continue any level of support for a market driven approach to maintaining MAP’s high energy efficiency standards. The answer to this question was complex because the state is served by over 60 electric utilities of different types, including investor-owned, public utility districts, municipal utilities, cooperatives, rural electrical associations, and others. Each operates under different decision making structures and state statutes, and holds different contractual relationships with BPA. They seldom agree on policy, including conservation programs and initiatives.

In April 1995, WSEO facilitated a meeting of state utilities and manufacturers to discuss options to the terminated MAP. The utilities concurred on several requirements for a future program:

- target low end manufacturers since this industry segment is the most likely to sell less energy-efficient homes;
- be cost effective;
- have a clear exit strategy;
- maintain a good working relationship with the manufactured housing industry; and
- increase consumer knowledge.

However, the utilities left the meeting divided on how to achieve these outcomes. Some supported local rebates, others supported the adoption of conditions on utility service and still others thought the market was successfully transformed and required only a consumer education effort. BPA indicated it would support any future effort with a marketing campaign.

Following this meeting, WSEO surveyed 21 of the state’s largest utilities. All responded. Fifteen indicated they would support some kind of energy-efficient manufactured housing program. Thirteen of these said they would consider a rebate at the consumer level. Two preferred a carrot and stick approach: rebate and conditions on utility service. Most also agreed to support the new program with local marketing. Several key utilities offered no support. At this writing, only five Washington electric utilities have actually made rebates available under the SGC® part of the NEEM™ program. The highest rebate to date is \$1,000.

Utility Marketing Support for the New SGC® MH Program

Utilities are marketing the NEEM™ Program in a variety of ways. PacifiCorp invested in television ads and solid-cast brass medallions with the SGC® logo and the marketing slogan of the Northwest Pride manufactured home trade group “Built for Living, Built for Life.” PacifiCorp provides these medallions to every manufacturer in the Pacific Northwest for placement on SGC® homes.

In the coming program year, BPA will contribute to the purchase of these medallions. Based on the market research focus groups conducted by PNNL in the three states, BPA has developed an SGC® marketing brochure and cooperated on television ads with Northwest Pride. It also markets the SGC® MH part of the NEEM™ program to utilities and dealers at meetings throughout the region. These measures, implemented in Spring 1996, appear to have positive market impact.

The states differ on their views of the utility marketing efforts. ODOE cautions BPA that this is a state program, and that anything BPA does will be subject to state review to avoid conflicting marketing claims. IDWR and WSEO, while sharing ODOE’s concern, have enthusiastically welcomed BPA’s marketing efforts, especially in Idaho where the market needs stimulation.

Market Penetration

NEEM™ homes are produced by all eleven Oregon, three Washington, five Idaho, and four of the 15 California manufacturing plants. Table 1-1 compares the number of manufactured homes produced under NEEM™ with all manufactured homes produced by those manufacturers during the same time period. The figures in Table 1-1 reflect manufactured home production rates from August 1995, after the obligation to produce electrically heated homes to MAP ended, to the end of December 1995. These penetration rates provide information on the early effects of eliminating MAP incentives. While production levels of electrically heated SGC® homes in Oregon and Washington were not significantly reduced during this transition period, significantly fewer homes were produced by Idaho and participating California manufacturers.

It is important that the information presented in Table 1-1 not be read as the final determination of market transformation success. The experience of the SEOs and their manufactured housing industry partners suggests that these short-term manufactured home production rates may be tied to production backlogs and temporary market conditions. For this reason the authors believe that the half year “early snap-

shot” presented in Table 1-1 may not reflect long-term penetration rates. Further monitoring of penetration rates is crucial to any useful market transformation evaluation. Such an evaluation should also consider related variables, such as the increased SGC® marketing efforts which began in early 1996, marketing efforts in the manufactured housing sector and overall manufactured housing market conditions.

In Idaho the NEEM™ Program provides valuable market pressure, because in order to sell against the program, retailers must have a reasonably energy-efficient product. Common manufacturing housing construction practice in Idaho is almost to the NEEM™ standard—R19 walls, R33 ceilings, R22 floors, and U.35 windows. What is lacking is air leakage control, extra ventilation, and independent, third party certification and inspection of energy features. As long as NEEM™ continues to be a significant market force in Idaho and the region, common practice will not probably sink to the 1994 HUD Code minimum, which is R11 walls, R22 ceilings, R22 floors, .052 windows, no air leakage control and no extra ventilation.

Energy Savings

ODOE, IDWR, WSEO and their Montana counterpart, Montana Department of Natural Resources, audited a total of 178 randomly selected MAP homes using a testing protocol designed by Ecotope, Inc. which included blower door and duct tests, homeowner interviews, photographs, load survey and installation inspection. This information, together with billing histories, was analyzed by Ecotope for BPA (Baylon, B. Davis & Palmiter 1995). The study, like others done by PNNL and Regional Economic Research, showed that MAP homes performed consistently with the original program expectations (C. Davis 1996). Estimates of energy savings compared to 1994 HUD Code minimum energy standards range from 30 to almost 50 percent.

Innovations in the NEEM™ Program

There have been many innovations—both technical and programmatic that started or reached fruition since MAP ended. A few of them are discussed below.

Ventilation. In NEEM™, each SEO is responsible for interpreting technical specifications. In Idaho, for instance, the two largest manufacturers used a ventilation system based on drawing fresh air into the duct system and circulating it with the furnace blower. The automatic timer that activated the exhaust fan, motorized damper and furnace blower was preset to operate 20 minutes during each hour of the day. Home buyers complained about the furnace blower noise, and Ecotope’s calculations showed that furnace blower operation used 2,848 kwh per year extra for ventila-

Table 1-1. NEEM™ Program Production Compared to Total Homes Built for Pacific Northwest Region (8/95 through 12/95).

State	# of Plants	Total Homes	SGC® ^a	Natural Choice ^a	Total NEEM™	NEEM™ % of Total
Oregon	11	5,215	4,203	227	4,430	85%
Washington	3	1,106	865	0	865	78%
Idaho	5	1,557 ^b	566	50	616	40%
TOTAL^c	19	7,878	5,634	277	5,855	74%

Source: “Total Homes” column includes both NEEM™ and non-program homes—the data is from Office of Housing and Building Technology, National Conference of State on Building Codes and Standards, Herndon, VA. The data is compiled monthly from each manufacturing state.

- “SGC®” means NEEM™ program homes with electric furnaces. “Natural Choice™” means NEEM™ program homes with combustion-fuel furnaces. This data is collected by the SEO tracking systems.
- Total Idaho production is reduced 25 percent, because historically this amount of Idaho production is shipped out of the Pacific Northwest region.
- California production is not included, because it is a small part of NEEM™ production and total California production shipped to the Pacific Northwest was not available for comparison.

tion. Ironically, both manufacturers were using low energy, ultra-quiet exhaust fans.

IDWR conducted air flow tests using titanium tetrachloride neutral density vapor and found that when the exhaust fan was on, the inlet damper on the fresh air duct into the furnace cabinet was open and the furnace blower was off, outward air flow was detected at the registers throughout the home on both single-wide and double-wide models. Based on these tests, IDWR interpreted the specification to allow for passive duct distribution of ventilation make-up air without the furnace blower, provided the duct system was better sealed than the normal program specification. To use passive duct distribution, manufacturers were required to seal ducts with mastic or high-quality butyl adhesive foil tape to avoid drawing make up air through the fiberglass insulation below the home’s floor. The furnace manufacturer worked with IDWR to modify their ventilation system to implement the new specification.

E-Rated Appliance Program. During the last year of MAP, ODOE developed an option for MAP home buyers to purchase energy and water efficient appliances. A MAP home with E-rated appliances was the star of the 1995 Manufactured Home Show in Salem, Oregon. In addition to the efficient envelope, the home had a horizontal axis clothes washer, ventless clothes dryer, low-water-energy-soap dishwasher, a high-efficiency refrigerator, oven, range and water

heater, low-flow toilets and faucet aerators, energy-efficient lighting and an exhaust air heat pump.

The E-rated appliance option continues under NEEM™ The program is funded by U.S. Department of Energy in coordination with PNNL. PNNL is now working with Washington and Idaho to offer the program region-wide.

CONCLUSION

It is still news to some utilities and manufactured home retailers in the rural parts of the Pacific Northwest that MAP did not die, but was transformed. Many told their customers that SGC® manufactured homes were no longer available. This is symptomatic of the abrupt end of the MAP program and the swift creation of NEEM™.

As the first Pacific Northwest market transformation project, NEEM™ will continue to be instructive. It may provide answers to questions like:

- How much utility support, if any, is needed to maintain a robust market for energy-efficient products?
- If utilities drop their support completely, will NEEM™ continue to produce and sell energy-efficient manufactured homes at the same level as the first five months of NEEM™?

- Is the best option for utilities engaged in market transformation ventures a complete exit from the market or low cost, long term market maintenance?

It is too early to evaluate marketing efforts initiated in March, although indications are the market responds well to this stimulation. The impact of the NEEM™ marketing brochures, developed by ODOE and IMHA, and BPA's new SGC® brochure and television ads will be interesting to observe.

Thus far NEEM™'s results are astounding. With simple marketing and no incentives, Washington and Oregon have maintained MAP 100 percent penetration rates and Idaho has between 40 and 50 percent of its MAP production. With a strong partnership between SEOs, manufacturers and utilities, the manufactured housing market in the Pacific Northwest may continue to produce and sell MAP standard homes for many years to come.

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