

*Working Draft*

Marketing Strategies  
for the  
Maine Residential Energy Standard  
(Maine RES)

Prepared for:  
Maine State Planning Office  
April 2002

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*“Informing housing buyers that Maine RES-compliant houses are easier to own because of the possibility of advantageous financing and enhanced homeowner cash flow is probably a more successful strategy than promoting Maine RES compliance from the perspective of energy efficiency.”*

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## Introduction

Energy efficient homes offer numerous advantages. They give builders a way to differentiate themselves from the competition, to increase profit, and to provide additional value to consumers and the environment. They offer homeowners protection from volatile energy costs such as those experienced during the winter of 2000 - 2001, as well as higher resale prices. Roger Bezdek, writing in *Environment*, stated “. . . energy efficiency programs can enhance economic growth, create jobs and contribute to international economic competitiveness.”<sup>1</sup>

This report evaluates and recommends marketing options for Maine RES — a voluntary residential energy standard for new construction and major renovations that would, if successfully implemented, substantially and cost-effectively increase the energy efficiency of homes in Maine.

The use of an effective marketing strategy for Maine RES will be vital to its success. Unlike the residential energy standards in most states, Maine RES is voluntary and, therefore, will not benefit from the type of compliance that enforcement can foster. Still, some analysts think voluntary standards offer advantages over mandatory energy codes:

Market-driven voluntary programs have been embraced nationally by the housing industry as the most effective method of improving the energy efficiency of new housing. In the January 1997 issue of *Builder Magazine*, Don DeLess of the National Association of Home Builders urged members to adopt voluntary energy programs: “It’s in a builder’s best interest to get involved in a voluntary energy program. If we can demonstrate strong participation by the industry, we can convince governmental regulatory agencies that market-driven programs are more effective than less flexible, mandated codes.”<sup>2</sup>

The goal of Maine RES is to transform the market to a level where Maine RES is the energy efficiency construction norm.

Market transformation is a strategic effort to induce lasting structural and behavioral changes in the marketplace that result in increased adoption and penetration of energy-efficient technologies and practices. Long-lasting, sustainable changes are achieved by reducing barriers to the adoption of energy efficiency measures to the point where further publicly funded intervention is no longer appropriate in that specific market.<sup>3</sup>

Transforming the housing market in Maine is also the central idea of the Maine RES marketing strategy proposed below. The infrastructural elements of both the public and private sectors of the market place must evolve to support Maine RES if it is to be successful. The marketing strategy is designed to influence the residential energy efficiency level of new building and renovations across Maine by demonstrating the advantages of compliance with Maine RES to builders and to owners.

*“Perhaps the best way to influence consumer demand for Maine RES-compliant housing is to focus marketing efforts directly at the consumer.”*

<sup>1</sup> Roger Bezdek, *Environment*, September, 1993.

<sup>2</sup> Steve Baden, “A Winning Combination: Linking Codes with Home Energy Ratings,” Presented at the 1999 National Conference on Building Energy Codes.

<sup>3</sup> *Proposed Plan for Public Benefit Programs Funded by System Benefits Charge*, New York State Energy Research and Development Authority, May 8, 1998, page 4-1. This report is the basis for the New York State Energy Smart Program.

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### **Purpose of the Maine RES**

This voluntary energy standard is intended to support private sector delivery of energy-efficient design and construction services. More energy-efficient construction can benefit builders, realtors, home owners, and the environment.

Maine RES is based on a higher level of energy efficiency than the requirements the current Maine code. It is different than and not related to other residential building standards used in the state, such as the federal ENERGY STAR Program and the Canadian R-2000 Program.

By following the voluntary standard, builders have the opportunity to positively differentiate their homes from less efficient ones offered by competitors. Given that Maine's energy costs are some of the highest in the nation, greater energy efficiency can have considerable appeal to Maine consumers. Supporting documentation such as third party verification of compliance and/or the proposed compliance label would provide credibility, and facilitate the ability of builders and realtors to market the advantages of energy-efficient construction to their customers.

The occupants of an energy efficient home benefit from increased thermal comfort during both winter and summer months. A related benefit is that a complying home is better isolated from outdoor noise and air pollutants when the doors and windows are closed. Although a Maine RES home may cost slightly more to build than one built to a lower efficiency standard, lower space-conditioning energy bills mean the Maine RES home costs less to own. Increased comfort and lower energy costs can make a home more desirable and marketable.

Greater energy efficiency benefits the environment and the State by making more efficient use of natural resources, and by reducing emissions that contribute to smog, impaired human health, and global climate change. Greater energy efficiency also increases energy independence and energy security.

### **The Housing Market in Maine**

#### **How Maine RES Compares with Building Practice in Maine**

The most recent survey available regarding building practices in Maine was conducted in 1996. This survey found that the energy characteristics included in new Maine houses during this year included R-38 ceilings, R-17 walls, R-5 basement walls, and U-0.375 windows. These characteristics are as much as 67 percent *less* efficient than the proposed Maine RES voluntary standard. Refer to Table 1 for more detailed information.

Table 1 also shows the comparison of Maine RES to the *Energy Efficiency Building Performance Standards*, the Maine law. The characteristics of the Maine law are from 1 percent more efficient to 74 percent less efficient than Maine RES for the Augusta climate, depending on house size and percentage glazing.

Neither as-built practices in 1996 nor the characteristics of the *Energy Efficiency Building Performance Standards* vary as the percentage of glazing varies. However,

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Maine RES requirements do vary as the percentage of glazing varies. Because of this, the comparison of 1996 practices and the Maine law to Maine RES yields a broad variation of energy consumption, with energy consumption differences increasing as glazing percentage increases.

Table 1 Maine Energy Efficiency Building Performance Standards and 1996 As-built Practices Compared with International Energy Conservation Code-2000 (Maine RES) Efficiency Level for One- and Two-Story Dwellings in Augusta, Maine				
	960 ft <sup>2</sup> One-Story Dwelling		1920 ft <sup>2</sup> Two-Story Dwelling	
Percent Glazing	Present ME statute	1996 practice	Present ME statute	1996 practice
<b>8</b>	4.1% less efficient	18.1% less efficient	1.0% more efficient	5.7% less efficient
<b>12</b>	17.6% less efficient	28.7% less efficient	14.6% less efficient	17.8% less efficient
<b>15</b>	28.3% less efficient	36.4% less efficient	27.6% less efficient	27.2% less efficient
<b>18</b>	37.7% less efficient	45.3% less efficient	40.4% less efficient	36.8% less efficient
<b>20</b>	46.9% less efficient	50.0% less efficient	49.8% less efficient	43.4% less efficient
<b>25</b>	68.0% less efficient	66.9% less efficient	74.4% less efficient	61.8% less efficient
<ul style="list-style-type: none"> <li>- Maine Energy Efficiency Building Performance Standards include R-38 ceilings, R-19 walls, R-10 basement walls, R-19 floors, and U-0.5 windows.</li> <li>- 1996 Maine as-built practices include R-38 ceilings, R-17 walls, R-5 basement walls, and U-0.375 windows.<sup>4</sup></li> <li>- One story dwelling is 40' x 24' with full basement (2' above grade, 6' below grade).</li> <li>- Two story dwelling is 40' x 24' with full basement (2' above grade, 6' below grade).</li> <li>- These comparison values will change for different areas of Maine. Augusta was selected as a midrange winter climate for the state.</li> <li>- "Percent Glazing" is the ratio of glazing square feet to gross above grade wall area square feet.</li> <li>- "more efficient" means greater efficiency than the 2000 Model Energy Code MECcheck standard.</li> <li>- "less efficient" means lower efficiency than the 2000 Model Energy Code MECcheck standard.</li> </ul>				

### The Maine Housing Industry

Currently in Maine, there are approximately 5500 to 6000 new home permits issued annually.<sup>5</sup> In the southern Maine area, the number of building permits peaked in 2000 at a record of 2,578, with the average home cost up by 9 percent over 1999.<sup>6</sup>

Table 2 Age of Homes in Maine		
Year Home Built	Number	Percentage
1980 to 1989	96,683	19.8
1970 to 1979	93,122	19.1
1960 to 1969	46,410	9.5
1950 to 1959	39,500	8.1
1940 to 1949	33,015	6.8
1939 or earlier	178,798	36.7
<b>Totals</b>	<b>487,528</b>	<b>100</b>
Source: Housing Facts Report 2000. Data from J. Wainer, Maine State Housing Authority.		

There is no current information indicating the energy efficiency level of these new homes, nor is there a count of the number that are speculatively built (speculatively built homes are required to comply with the Maine Energy Efficiency Building Performance Standards).

Of the new home permits issued in the state as a whole during the year 2000, 759 were modular homes, about 12 percent of the total.<sup>7</sup> Modular homes must meet the codes imposed by the Maine Manufactured Housing Board (MHB), even if manufactured out of state or country.

Last year there were 1472 mobile homes placed in Maine, down from 1590 for the

<sup>4</sup> The R-values and U-factors used for the two example dwellings are 1996 average Maine values according to a survey by the National Home Builders Association and Pacific Northwest National Laboratory.

<sup>5</sup> Jim Connors, Maine State Planning Office, April 2001.

<sup>6</sup> Construction Data New England. This permit tally for new homes includes modular homes, but not mobile homes.

<sup>7</sup> Modular homes are shipped to the site in pieces — walls, roof, etc. — where they are assembled.

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previous year.<sup>8</sup> The placements for 2001 were significantly down from 2000. The energy efficiency characteristics of new mobile homes are regulated by federal codes, not state standards or codes.

Most building activity in the state is in the southwest corner. Housing starts in this active area and the average house price for the years 1991 through 2000 are listed in Table 4. Housing starts and prices have increased during this ten year period. Figures are likely to show a decrease in housing starts for the year 2001 because of the slowing economy, but figures are not yet conclusive.

The top ten builders in southwestern Maine for 2000 are listed in Table 5.

These builders were responsible for 405 of the 2,578 housing starts in southern Maine in 2000, about 16 percent.

This means that 86 percent of the houses in southern Maine during this period were built by contractors starting twenty-four or fewer houses for the year — medium to small builders.

During the 1990s, incomes grew by 22 percent, but home prices grew by just 6 percent. Even with this significant income growth for the decade, in the year 2000 the median income in Maine was only \$31,571. Given the financial market characteristics, a median income family could afford a \$89,789 house, significantly below the median house price for Maine of \$109,000.<sup>9</sup> These figures yield an affordability index of 0.82, indicating that the median income person in Maine could not afford the average new house built in Maine.<sup>10</sup>

State/Region	Count
New Hampshire	85
Pennsylvania	120
Maine	242
Canada	312
<b>Total</b>	<b>759</b>

Source: State of Maine Department of Professional and Financial Regulation, Office of Licensing and Registration, Manufactured Housing Board

Year	Number of Starts	Average Cost, excluding land
1991	1,534	\$85,145
1992	1,838	\$84,178
1993	1,645	\$93,981
1994	1,813	\$100,216
1995	1,646	\$106,167
1996	1,866	\$111,361
1997	1,959	\$118,550
1998	2,387	\$125,563
1999	2,430	\$136,376
2000	2,578	\$147,989

Source: Construction Data New England. This data includes the towns of Arundel, Auburn, Bath, Berwick, Biddeford, Bridgton, Brunswick, Buxton, Cape Elizabeth, Casco, Cumberland, Eliot, Falmouth, Freeport, Gorham, Gray, Green, Harrison, Kennebunk, Kennebunkport, Kittery, Lewiston, Lisbon/Lisbon Falls, Minot, Naples, New Gloucester, North Berwick, North Yarmouth, Ogunquit, Old Orchard Beach, Poland, Portland, Raymond, Sabattus, Saco, Sanford/Springvale, Scarborough, Sebago, South Berwick, South Portland, Standish, Topsham, Turner, Waterboro, Wells Westbrook Windham, Yarmouth, and York.

Builder	Number of Starts, 2000	Average Cost, excluding land
1. Normand Berube Builders, Saco	64	\$186,938
2. Gilbert Homes, Gorham	52	\$81,308
3. Chase Custom Homes, Windham	46	\$215,486
4. Custom Build Homes of Maine, Windham	46	\$114,378
5. Fortin Home Construction, Auburn	40	\$142,650
6. Terry Brown, Scarborough	39	\$151,282
7. Kasprzak, Inc., North Waterboro	35	\$81,857
8. PATCO Construction, Sanford	31	\$120,177
9. Risbara Bros. Construction, Scarborough	28	\$187,071
10. Design Dwellings, Gorham	24	\$91,261
<b>Total</b>	<b>405</b>	

Source: Construction Data New England (207-781-7121). Used with permission.

<sup>8</sup> Mobile homes include single-wide, double-wide, triple-wide, and two-story mobile homes trucked to the placement site on a wheeled chassis.

<sup>9</sup> Housing Facts Report 2000. Data from J. Wainer, Maine State Housing Authority.

<sup>10</sup> *ibid.* The affordability index equals the home price that can be afforded at the median income divided by the median home sale price. For these current values: Affordability Index = \$89,789/\$109,000 or 0.82. An affordability index of less than 1.00 indicates unaffordable housing, 1.00 or more indicates affordable housing.

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### Influences on Consumer Demand

The demand for housing in Maine originates from four sources:<sup>11</sup>

- 1) An increase in the number of households,
- 2) The need to replace housing lost to disasters and abandonment,
- 3) The need to increase extra units to ensure a healthy vacancy rate and choice in the market, and
- 4) Sprawl -- the movement of urban residents to more rural areas of the state.

During 1999 there were 3,400 homes and apartments lost to disaster and abandonment, accounting for 13 percent of the housing demand during the period.

As a result of the out-migration of households during the decade of 1990, there has been no need for new units to ensure adequate vacancy rates. However, this may be changing in southern Maine.

The increase in the number of households in Maine accounts for 90 percent of the need for new housing. This increase in households is driven by:

a) *Natural increase.*

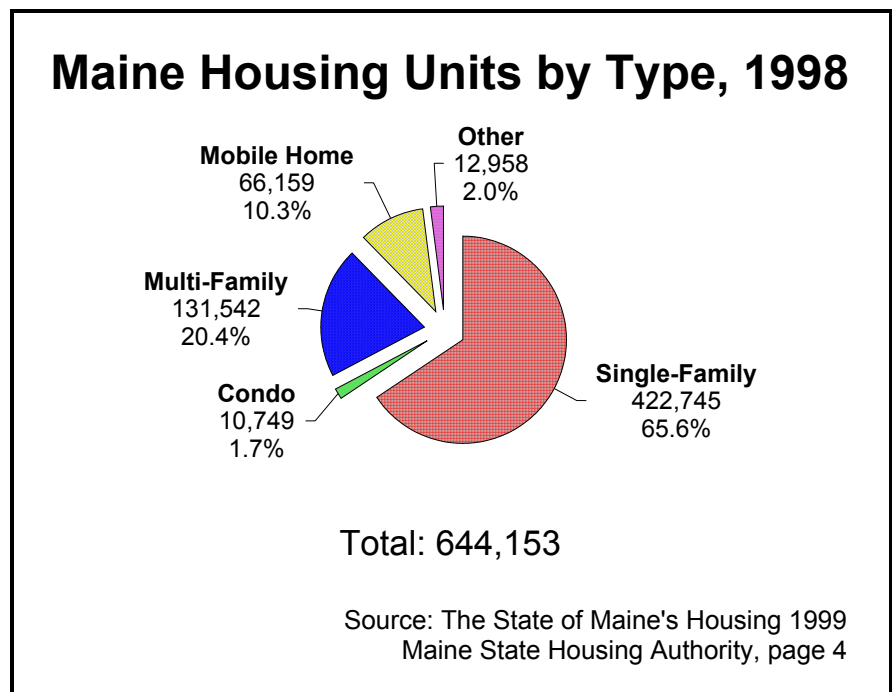
This refers to the increase in demand from young people maturing and leaving their families to start a new household, minus the loss from older people moving into institutions or dying.

b) *Net in-migration.* This is the gain of new households moving into Maine, less the loss from households moving out of the state; and

c) *Lifestyle changes.* Many lifestyle changes can lead to an increase in the housing demand, including more people living a single lifestyle, more widows and widowers (elderly are living longer), and more divorces (each divorce creates two households from one). In addition, all of these changes contribute to a reduction in the household size.

The natural increase in households partially depends on population growth. Maine's

<sup>11</sup> *The State of Maine's Housing 1999*, Maine State Housing Authority, 1999, and *The Cost of Sprawl*, Maine State Planning Office, May, 1997.





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population has grown from 993,722 in 1970 to 1,274,923 in 2000, an increase of only 281,201.<sup>12</sup> This 28 percent growth over three decades is an average of less than 1 percent per year.

Similarly, the growth rate of Maine households during the last decade has been slow. During the decade of 1980 there was an increase of 70,000 households in Maine, primarily a result of the baby boom generation entering the housing market. During the 1990s, the number of households increased by only 28,663. This severe slowdown in the household growth rate was probably due to the absorption of the baby boomers into the housing market during the 1970s and 1980s, causing demand for housing to slow significantly during the 1990s.

Also strong in Maine during the 1970s and 1980s was net in-migration. The net in-migration reversed in the 1990s, resulting in a loss of population. Between 1990 and 1998 the United States Census estimates that Maine experienced a net *out*-migration of 11,324. The most recent Census estimates indicate that the out-migration stopped in the later years of the 1990s, but this may reflect early retiree households along the coast, masking a continuing outflow of your families from inland and rural Maine.

During this decade, it is expected that the “baby boom echo” generation will contribute to a significant increase in households in Maine. There is also the possibility of an increase in the net in-migration when the current slump in the economy passes. However, it is not expected that these two factors will cause the increase in households in Maine to reach the high levels of the 1980s.

Sprawl is a relatively new and significant pattern in Maine. This movement by thousands of Maine families from city to rural areas is based on the attractions of lower housing prices, cheaper land, lower taxes, privacy, and the search for a perceived enhancement of lifestyle. Sprawl is “. . . driven by rational (but less than fully informed) economic decisions, by the desire for privacy, and by the desire for a low-density, suburban lifestyle.”<sup>13</sup> The public costs of large scale sprawl can be significant simply because it costs more to provide services (schools, roads, police and fire protection) to families who are more widely dispersed. However, regardless of the personal benefits or the public costs of sprawl in Maine, it has had a significant impact on demand for housing in rural areas.<sup>14</sup> This impact is likely to continue for the near future.

### **The Energy Economics of Maine RES**

In order to show that a house built to Maine RES is a sound investment for Maine’s homeowners, a study was conducted to analyze the financial advantages of a Maine RES home. The *Economic Analysis for Maine Residential Energy Standard (Maine RES)*<sup>15</sup> examined 1) the cost-effectiveness of increasing energy-efficiency levels from the current Maine law to those of Maine RES, 2) the benefits of energy efficient financing, and 3) the increased resale value of a Maine RES house.

1) In order to justify moving from the energy-efficiency levels of the Maine Energy

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<sup>12</sup> Source: *The State of Maine’s Housing 1999*, Maine State Housing Authority, 1999 and Housing Facts Report 2000. Data from J. Wainer, Maine State Housing Authority.

<sup>13</sup> *The Cost of Sprawl*, Maine State Planning Office, May, 1997.

<sup>14</sup> *ibid*, page 17, table of the “Fastest Growing Towns in Maine.”

<sup>15</sup> By Rick Karg for the Maine State Planning Office, April 2001.

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Efficiency Building Performance Standards<sup>16</sup> — the base case — to those of Maine RES, an economic analysis was performed on twenty-four, computer modeled new homes<sup>17</sup>, one-half subject to the climate of Portland and the other one-half to the climate of Caribou. The *Economic Analysis for Maine Residential Energy Standard* showed that the selected energy-efficiency measures were cost-effective for all twenty-four computer modeled examples.<sup>18</sup>

- 2) In addition, the study examined the impact that energy efficient financing can have on the economics of a home purchase. Mortgages available for qualifying Maine RES houses recognize that energy-efficient features can make a house less expensive to own and, in many cases, allow a borrower to buy a more expensive home.

Energy efficient financing includes a number of products: Energy Efficient Mortgages (EEM), ENERGY STAR mortgages, and Energy Improvement Mortgages (EIM). EEMs and ENERGY STAR mortgages are products that ease qualifying requirements and/or offer some sort of interest rate or closing cost incentive for already-efficient (new) homes.<sup>19</sup> EIMs are financial products that allow the upgrading of energy features of an existing house as part of the mortgage.<sup>20</sup> In order to qualify for energy-efficient financing, the borrower must have a Home Energy Rating System (HERS) analysis done on the house.

It is impossible to determine a general economic advantage of energy-efficient financing; each case varies. However, any home built to the Maine RES level will qualify for this preferential treatment, giving an advantage to the buyer of a new home or the owner of an existing home.

The effort to ensure the energy efficiency of new homes through improved building energy codes has raised concerns with the housing industry that improved energy codes will cause higher construction costs, which in turn, will reduce housing affordability. Home energy ratings coupled with energy efficient mortgages can provide an opportunity to turn this perception around. In reality, the value of energy efficiency actually greatly exceeds the added cost and thereby increases the number of qualified home buyers. It also increases consumers' "buying power" for higher quality, more comfortable and more affordable energy efficient homes. Through the market force of home energy ratings and the energy mortgages investing in making homes energy efficient will have the positive effect of making housing **more** affordable, not less affordable.<sup>21</sup>

- 3) The positive relationship between energy efficiency and resale value brings another benefit to the energy-efficient home owner. A number of well-documented studies, have established this favorable relationship.

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<sup>16</sup> *The Maine Energy Efficiency Building Performance Standards* are a Maine law.

<sup>17</sup> In most cases, costs for these energy-saving measures will be higher for existing buildings, while the savings will be the same. As a result, the addition of these measures to existing homes will not be as cost-effective as for new homes.

<sup>18</sup> The present value of the savings resulting from the bundle of energy improvement measures was greater than the implemented cost of the measures. Positive cash flow changes ranged from \$3.00 to \$84.00 per year. See Table 6 for an overview of house modeling for and results of this study.

<sup>19</sup> Richard Faesy, "Understanding and Overcoming the Energy Mortgage Barrier: Financing Energy Improvements in Existing Homes," *2000 ACEEE Summer Study on Energy Efficiency in Buildings*, footnote number 1 on page 1.

<sup>20</sup> *ibid.*

<sup>21</sup> Steve Baden, "A Winning Combination: Linking Codes with Home Energy Ratings," Handout for presentation at the 1999 National Workshop on Building Energy Codes.

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The most significant of these studies found that the energy-efficient home resale value *increased* by about \$20.00 for every one-dollar *decrease* in annual fuel costs. Thus, houses built to the Maine RES efficiency levels would have a resale value from \$1,200 to over \$6,100 higher than similar houses built to current Maine law. This increase in home resale value is an addition to the expected benefits of positive cash flow and preferential financing.

1. House Model	2. Annual Cash Flow Change	3. Annual Savings	4. Present Value of Savings	5. HERS Rating When Improved to Maine RES	6. Increase in Resale Value at Maine RES
<b>One Story</b>					
Portland, 8% glazing	\$7	\$60	\$666	86.5	\$1,200
Caribou, 8% glazing	\$23	\$94	\$1,039	86.1	\$1,880
Portland, 12% glazing	\$5	\$70	\$799	86.2	\$1,400
Caribou, 12% glazing	\$39	\$139	\$1,553	86.9	\$2,780
Portland, 15% glazing	\$7	\$116	\$1,189	86.6	\$2,320
Caribou, 15% glazing	\$37	\$163	\$1,812	86.5	\$3,260
Portland, 18% glazing	\$5	\$123	\$1,371	85.9	\$2,460
Caribou, 18% glazing	\$38	\$173	\$1,926	85.9	\$3,460
Portland, 20% glazing	\$5	\$128	\$1,428	85.5	\$2,560
Caribou, 20% glazing	\$39	\$180	\$2,004	85.6	\$3,600
Portland, 25% glazing	\$3	\$140	\$1,566	84.3	\$2,800
Caribou, 25% glazing	\$42	\$197	\$2,196	84.6	\$3,940
<b>Two Story</b>					
Portland, 8% glazing	\$20	\$106	\$1,175	87.6	\$2,120
Caribou, 8% glazing	\$49	\$151	\$1,688	86.7	\$3,020
Portland, 12% glazing	\$18	\$123	\$1,375	86.6	\$2,460
Caribou, 12% glazing	\$66	\$207	\$2,317	86.4	\$4,140
Portland, 15% glazing	\$18	\$175	\$1,957	86.5	\$3,500
Caribou, 15% glazing	\$74	\$248	\$2,763	86.6	\$4,960
Portland, 18% glazing	\$16	\$188	\$2,107	85.7	\$3,760
Caribou, 18% glazing	\$77	\$266	\$2,971	86.0	\$5,320
Portland, 20% glazing	\$15	\$197	\$2,207	85.2	\$3,940
Caribou, 20% glazing	\$79	\$279	\$3,109	85.5	\$5,580
Portland, 25% glazing	\$12	\$219	\$2,458	83.9	\$4,380
Caribou, 25% glazing	\$84	\$309	\$3,456	84.4	\$6,180
<ul style="list-style-type: none"> <li>- Column 1: One-story house is 960 square feet. Two-story house is 1920 square feet.</li> <li>- Column 2: This is the difference between expected annual savings (column 3, based on interactive analysis) and the increased annual mortgage cost resulting from the energy-saving measures. Values are based on interactive analysis.</li> <li>- Column 4: Present value of savings over the life of the energy-saving measures. Values are based on interactive analysis.</li> <li>- Column 5: Shaded cells do not qualify as ENERGY STAR homes, i.e., have a HERS score less than 86.</li> <li>- Column 6: Values are the product of column 3 times 20 (see paragraph just before this table. This is the expected increase in resale value as a result of the energy-saving measures added to increase the energy-efficiency level from that of the Maine Energy Efficiency Building Performance Standard to that of Maine RES.</li> </ul>					

### The Maine Housing Market and Maine RES

Perhaps the best way to influence consumer demand for Maine RES-compliant housing is to focus marketing efforts directly at the consumer. The EnergySmart program in New York has used this approach with success. The consumer demand created for energy efficient homes in New York by the EnergySmart program is causing the housing industry, including builders, realtors, financial institutions, and materials suppliers, to ally themselves with the program, either for fear of being left behind or because of the understanding of the competitive advantage the EnergySmart alliance can bring to their

<sup>22</sup> *Economic Analysis for Maine Residential Energy Standard (Maine RES) by Rick Karg, April 2001, for the Maine State Planning Office, page 5, Table 1.*

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businesses.<sup>23</sup>

Informing housing buyers that Maine RES-compliant houses are easier to own because of the possibility of advantageous financing and enhanced homeowner cash flow is probably a more successful strategy than promoting Maine RES compliance from the perspective of energy efficiency. Recent national studies have demonstrated that consumers are unaware of the energy efficiency level of their homes.

According to a recent consumer behavior study conducted by the Alliance to Save Energy, residential customers do not respond to commonly used marketing practices which have been used to promote energy efficiency. Rather, consumers are inclined to make choices based on projected personal financial gain, improved comfort, and increased health and safety. . . . Another interesting barrier to this market may relate to the relative magnitude of a household's energy burden, or percentage of income devoted to energy costs. Traditional market drivers, upper income and educated households, have energy burdens which range from 3-8%, which may be too low to drive overt action on the part of these households.<sup>24</sup>

Many consumers in Maine cannot afford a new home with an average cost of \$109,000.<sup>25</sup> Chances are that energy efficient new housing can increase the low affordability index for the average person by allowing the purchase of a more expensive house for a given income.<sup>26</sup>

Energy efficient construction can enhance housing affordability in another way also. A number of studies have demonstrated that energy efficient houses have a higher resale value than less efficient ones. Many researchers agree that the resale value of a house increases by \$20 for each one dollar decrease in annual energy costs.<sup>27</sup> This increases the equity for the owner of an energy efficient house, putting them in a more favorable position for the purchase of their next home.

Eight of southern Maine's top ten builders — see Table 5 — belong to the Home Builders and Remodelers Association of Maine (HBRA). This high percentage indicates that support from HBRA may be key to Maine RES success. In the year 2000, modular homes accounted for 12 percent of the housing starts in Maine, a significant portion of the total. Currently the Manufactured Housing Board (MHB) is using the 1993 version of the BOCA code, including its energy efficiency requirements. These requirements are less stringent than those of Maine RES and can be effected by efforts to increase the energy efficiency characteristics to those of Maine RES.

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<sup>23</sup> Discussion with Andrew Fisk, EnergySmart program manager, NYSERDA, May 2, 2001.

<sup>24</sup> *Proposed Plan for Public Benefit Programs Funded by System Benefits Charge*, New York State Energy Research and Development Authority, May 1998, page 4 - 33.

<sup>25</sup> Housing Facts Report 2000. Data from J. Wainer, Maine State Housing Authority.

<sup>26</sup> See *Economic Analysis for Maine Residential Energy Standard* by Rick Karg, pages 6 - 7.

<sup>27</sup> *ibid.*, pages 7 - 8.

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### **Goals of Maine RES Marketing**

The two overall marketing goals of Maine RES are:

- Increase the energy-efficiency level of all new residential construction and significant renovations through implementation of Maine RES.
- Make the Maine RES a self-sustaining program.

### **Marketing Strategies**

The general marketing strategies for Maine RES should:

- *Support private sector delivery of energy efficient construction* by providing the building community with tools, training, and information for improving energy efficiency and marketing it to consumers.
- *Create consumer demand for energy efficiency* by providing consumers and, those who advise them, with clear information regarding the advantages of using energy efficient techniques of at least the Maine RES level for their real estate investments.
- *Create self-sustaining partnerships* with other public, private, and not-for-profit programs and organizations to efficiently and effectively carry out the two strategies listed above.

These marketing strategies were selected after consultation with stakeholder representatives<sup>28</sup> and examination of marketing models used for other energy-efficiency programs nationwide. Existing energy-efficiency programs examined as marketing models included:

- ENERGY STAR Homes Program
- Weatherization Assistance Program: Weatherization Works!
- New York State Energy Smart Program
- *MaineStar* Residential Energy Conservation Program (now obsolete)

A description of each of these four programs, the primary marketing strategies of each, and the lessons each has to offer Maine RES are provided in Appendix A.

### **Market Barriers to Maine RES and Energy Efficient Construction**

Market barriers are market characteristics that create a gap between the actual level of investment in, or practice of, energy efficient construction and an increased level of efficiency that is cost-effective. Market barriers can prevent the optimized use of energy efficient products and services, like Maine RES.

Possible market barriers that could slow or obstruct the adoption of Maine RES include:

- *Perception of increased costs*. Many designers, developers, and owners think that energy efficient construction is not worth the extra up-front capital cost.

<sup>28</sup> A list of stakeholder groups and representatives involved with the derivation of Maine RES is listed in Appendix B.

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- *Risk aversion.* The building industry, like most of us, is slow to adopt new technologies or methods. Many designers and builders prefer to install systems and build structures using familiar technologies. Builder and designer liability issues are also a concern.
- *First cost vs. life-cycle cost considerations.* Some building owners are only concerned with first-costs. As a result, builders may resist increased first-costs even though operating costs are reduced as a result.
- *Limited technical information.* Designers, developers, and owners often have limited familiarity with new products, technologies, and their applications, and the associated benefits that extend beyond energy savings (comfort, durability, health, productivity, and maintenance).
- *Reported problems with energy efficient homes.* Many in the building and financial industries have reservations about energy efficient homes. It is likely that these reservations were fostered by reports of poor indoor air quality (IAQ) or difficulties with moisture buildup.
- *Split incentives.* In multifamily housing, the objectives and incentives of the owner and the tenants are often at odds, impeding the implementation of energy efficient technologies.
- *Lack of awareness or apathy regarding Energy Efficient Financing (EEF).* Although EEFs can be provided by any financial institution that writes mortgages, many of these institutions, builders, and potential homeowners are not aware of this.
- *Confusion regarding the various energy efficiency standards in Maine.* These include the Maine Energy Efficiency Performance Building Standards (Maine law), Maine Residential Energy Standard, and ENERGY STAR. There very well might be name confusion and confusion regarding the various energy efficiency levels of these codes and standards, to the extent there is awareness of them at all.

The primary tool for overcoming these barriers to the adoption of Maine RES is education. Not only the education of builders and designers, but also of owners, realtors, and loan officers.

### **Maine RES Stakeholder Interests**

During the course of the Maine RES project, many representatives from stakeholder groups were visited for their comments and suggestions.<sup>29</sup> Most of these representatives have shown a high degree of interest in Maine RES and have expressed interest in forming an alliance with the program.

As part of our outreach efforts, we met with representatives of the building industry, Community Action Programs, Maine technical colleges, electric utilities, indoor air quality groups, real estate agents, and the banking industry.

Below is an overview of the comments from the stakeholder groups that have been visited and telephoned over the past year.

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<sup>29</sup> Appendix B of this report lists stakeholder groups met with during this project.

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- Demonstrate that the additional investment for energy efficiency has a fast payback.
- Address concerns about indoor air quality in energy efficient homes.
- Avoid confusion with other programs that promote energy efficient construction, such as ENERGY STAR and the Canadian R-2000 Program.
- Provide a credible method to verify and market compliance with Maine RES.
- Provide training and tools to the building community.
- Certify interested members of the building community as Maine RES allies.

### **Maine RES Marketing Options**

These marketing approaches were selected because they will help achieve the primary goals of Maine RES, they will overcome market barriers, and they are related closely to the general marketing strategy. The approaches were derived from meetings with stakeholders, evaluation of similar voluntary programs<sup>30</sup>, and from the experiences of those writing and reviewing this marketing plan.

### **Building Consumer Demand**

Building consumer demand for Maine RES is probably the most important marketing strategy for the success of the voluntary program because it can “pull” builders and other industry players up to the energy efficiency level of Maine RES. If consumers ask for a Maine RES-compliant home, builders are likely to satisfy their customers’ needs.

It is important that consumers thinking about building energy-efficient homes or additions receive the Maine RES message at significant decision points in the process. For many people, these decision points or events include:

- Buying land for a home.
- Dreaming about building a new home.
- Talking with a spouse, other confidant or advisor about the feasibility of building a new home.
- Designing the home.
- Hiring a builder.
- Purchasing building materials.
- Obtaining financing for a new home or addition.

### ***Development of Promotional Materials***

Promotional materials are needed to inform consumers about the advantages of complying with Maine RES.

The advantages that should be promoted for Maine RES houses include:

- Lower energy bills
- Qualification for advantageous financing
- Lower monthly principle/interest/taxes/insurance/energy outlay
- Increased comfort level in house, both winter and summer

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<sup>30</sup> Please refer to the Appendix B of this report.

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- Maine RES labeling to identify house energy characteristics
- Higher house resale value
- Better acoustical insulation from outdoors
- Possibility of better indoor air quality

*How it would work:* Materials produced might include:

- Press Releases
- Public service announcements
- Fact sheets
- Successful model campaign with poster and short testimonial
- Logo for “co-branding” efforts with alliance groups
- Brochure for consumers
- Maine RES Energy Label (Slogan: “Earn a Label”)
- Energy efficient financing brochure

*Target audience:* Homeowners.

*Implementation issues:* Some of these items might be able to be designed, produced, and distributed with the help of Maine RES alliance partners.

*Approximate costs:*

- Identity/logo design -- \$2,500
- Brochure design and printing — \$15,000
- Printed advertising -- \$7,000
- Media relations/press event -- \$6,000

## **Building Industry Training and Tools**

The building industry must be made aware of the benefits of complying with Maine RES, including the benefits to the homeowner and the benefits to the builder. Of course, the building industry must also be made aware of what it takes to comply with the voluntary standard. Training and related tools must be prepared and delivered to builders, designers, architects, real estate agents, code enforcement officers, and bankers.

### ***Housing Industry Training***

Builders and others involved with housing have expressed the desire for training and information about Maine RES. More than a decade ago, similar training for the Maine *Energy Efficiency Building Performance Standards* was presented at the Maine Technical Colleges.<sup>31</sup> If seats were vacant in the training hall, the training sessions were opened to technical college students in the construction technology program. Because this alliance with the technical college construction technology programs worked well in the past, it should be used as a model for Maine RES training sessions.

In addition to builders, these past training sessions were attended by architects, engineers, code enforcement officers, technical educators, owner-builders and real estate agents. This mix of professions and perspectives enriched the training experience.

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<sup>31</sup> These day-long training sessions were usually presented at four or five of the Maine technical colleges on an annual basis over a ten year period beginning about 1983.



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### *How it would work:*

- Day-long periodic (potentially annual) training sessions at four or five statewide locations, in cooperation with Maine technical colleges that have building technology programs.
- Training would be followed by a certification examination.
- Attendees with passing grade receive Maine RES builder certification.
- Continuing education credits can be offered to Realtors. Slide show would be developed for this day-long training session.
- Attendance would be taken at each session, including name, work (builder, realtor, CEO, interested home owner, etc.), and other marketing related information.
- Each attendee (except for technical college students) would be charged a fee to help defray costs, perhaps \$25 to \$50.

### *Target audience:*

- Contractors and builders, including members of Home Builders and Remodelers Association of Maine (approximately 300 members) and other builders/contractors (approximately 400 people).
- Other target groups include code enforcement officers, realtors, technical college students and instructors, home designers, owner-builders (approximately 500 people).

### *Advantages:*

- Informs important stakeholders of Maine RES and allows opportunity to update.
- Keeps relationship fresh between stakeholders and Maine RES administrator(s).
- Easy to tie in with certification of Maine RES builders.

### *Disadvantages:*

- Six to seven hours is a short period to adequately address the complexity of the subject.
- Full day is a long period to pull attendees away from their productive work.

### *Variations to approach:*

- Tie in with ENERGY STAR training
- Tie in with Maine Energy Efficiency Performance Building Standard, the current Maine law.
- Offer on an ongoing basis at evening courses at the four technical colleges with building technology departments (SMTTC, CMTC, EMTC, and NMTC).

### *Implementation issues:*

- Requires days of planning and coordination each year.

*Approximate cost* (Collected money from entry fees has not been subtracted from these estimated costs. Also, state support and overhead costs are not included in these costs):

- Curriculum development, including digital slide show, assuming a related Builders' Guide has already been prepared and that graphics from the Builder's Guide may be used for training session slide show — \$6,000.00
- Presentation of one day-long session, expenses included — \$900.00.

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### **Maine RES Builder's Guide and Related Promotional Materials**

A building construction manual geared to Maine RES is an excellent way to promote the voluntary energy standard and to disseminate important information about energy efficient construction, including building tightness, insulation details, ventilation to ensure acceptable indoor air quality, and cost effectiveness.

Additionally, builders need other tools such as MEC*check*, promotional slide shows, brochures, and other promotional and background information.

#### *How it would work:*

- Tie in with nine-state effort headed by NEEP and other organizations to write builders guides for these nine states.
- Maine could probably obtain a copy of the project “boilerplate” builders’ guide, authored by BOCA/CABO, and customize it for Maine RES. Or, possibly can use an appropriate published builders’ guide to keep costs down.
- Ask one or two members of the Home Builders and Remodelers Association of Maine (HBRA) to serve on the editorial committee for the builder’s guide.
- For other tools, produce a CD-ROM containing MEC*check*, ENERGY STAR Home Calc<sup>32</sup>, software manuals, builder’s guide in PDF format, files of Maine RES, Maine RES label, energy efficient financing information and other resource files.<sup>33</sup> In addition, produce a brochure targeted at builders.

*Target audience:* Members of Home Builders and Remodelers Association of Maine (approximately 300 members), other builders who are not members of this organization, and interested owner builders.

#### *Advantages:*

- Would serve as a companion document to Maine RES training sessions and builder certification.
- Would serve as a guide for energy-efficient construction in Maine even if readers and users are not using Maine RES.
- HBRA might welcome a builder’s guide and might adopt it as the official HBRA builder’s guide.

#### *Disadvantages:*

- Would require periodic updates, perhaps once every five years.
- Expensive to customize “boilerplate” and to print.
- Would require sustained support for document distribution and updates.

#### *Variations to approach:*

- Maine could alter the present *Manual of Accepted Practices* (MAP) for use as a builders’ guide.

#### *Implementation issues:*

- SPO or DECD customize the “boilerplate” version from NEEP project.
- Coordination of printing and binding of the document.
- Who will distribute the builders’ guide?

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<sup>32</sup> Home Calc is a financial tool that shows the advantages of building a home that complies with the federal ENERGY STAR standards. Maine RES-compliant homes are sometimes ENERGY STAR-compliant also.

<sup>33</sup> This CD-ROM should be modeled after the ENERGY STAR Homes Marketing Toolkit CD-ROM.

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- The Builder's Guide would have a useful life of at least five years.

### *Approximate cost:*

- Builder's manual:
  - Alteration of "boilerplate" version from NEEP project — \$8,000.
  - Printing and binding of 2000 copies — \$15,000.
- Other tools:
  - Builders CD-ROM — \$500 plus \$1.50 for each copy
  - Builders brochure — \$3000 for a glossy tri-folded, 8 ½ by 11" size, printing costs included.

### **Addendum to Maine Guide To Energy Efficient Residential Construction: A Manual of Accepted Practices (MAP)**

The MAP is primarily a manual for energy efficient construction practices. It was first published as a manual for compliance with the Maine law for speculatively built residential construction. It lists the details of the Maine law — *Energy Efficient building Performance Standard* — but most of the described construction details are general enough to apply to Maine RES.

*How it would work:* The *Maine Guide To Energy Efficient Residential Construction: A Manual of Accepted Practices (MAP)* is the most popular publication of the Department of Economic and Community Development. Three or four pages will be added to this publication, detailing voluntary compliance with Maine RES.

*Target audience:* Builders and owner builders.

*Advantages:* An inexpensive and effective method of promoting Maine RES and energy efficient construction methods.

### *Approximate cost:*

Writing of addendum — \$800

- Printing of MAP: Because the MAP is now a vital document, it is assumed that DECD would have occasionally reproduced copies even without this addendum, so no additional cost is included here.

### **Contractor/Builder Maine RES Certification**

Testing and rating builders as Maine RES-certified would add credibility to the Maine RES program, enhance the credibility and marketing activities of builders, and provide homeowners increased assurance that certified builders know how to properly construct Maine RES homes. Maine RES builder certification could become the first major attempt within the state to move toward performance-based construction.

### *How it would work:*

- Tie certification in with day-long periodic (potentially annual) training sessions at four or five statewide locations.
- Training would be followed by a certification examination.
- Attendees with passing grades receive Maine RES builder certification.

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*Target audience:* Contractors and builders, including members of Home Builders and Remodelers Association of Maine (approximately 300 members), and other nonmember builders.

### *Advantages:*

- Improved energy efficiency proficiency and certification of builders.
- A means for certified builders to differentiate themselves from others who are not certified as Maine RES builders.
- Easy to tie in with periodic (potentially annual) training sessions. Makes periodic training more productive and increases attendance.

### *Disadvantages:*

- Certification might provide false assurance to consumers.
- Very abbreviated certification training.

### *Variations to approach:*

- Tie in with certification for ENERGY STAR builders.
- Offer on an ongoing basis at evening courses at the four technical colleges with building technology departments (SMTTC, CMTC, EMTC, and NMTC).
- Use a two-tiered approach of “certified builder” and “master certified builder.” The second tier would require more advanced training and another examination.

### *Implementation issues:*

- Inspection of built houses could increase the credibility of certification.
- How would consumers know which builders are certified?
- Certification examination must be based on training and/or builders’ manual.
- Examination must be rewritten periodically.
- Examination must be graded.
- Certificate and letter must be mailed to builders. Letter must be mailed to builders who fail examination.

*Approximate cost:* The cost estimates below are based on about 200 applicants per year (this estimated number of applicants is based on attendance over a ten year period of similar day-long training sessions held to inform the building industry in Maine of the *Energy Efficient Building Performance Standards*). The estimated costs below do not include state administration or overhead costs.

- One-time costs:
  - Examination development (Two examinations of 50 questions each. One examination will have five to ten questions different from the other) — \$800.
- Costs incurred for each examination session, assuming 30 people:
  - Reproduction of examinations — \$30.
  - Proctoring examination after training session — \$100.
  - Scoring examination — \$100.
  - Distribution of certificates — \$300.

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### **Training Sessions for Financial Loan Officers**

Advantageous energy efficient financing is one of the shining benefits of homes built to Maine RES standards. Perhaps there are many financial institutions and loan officers that are not fully aware of energy efficient financing tools, or perhaps they do not inform customers of these advantageous loans because customers do not ask about them. There must be at least one attempt to gather financial officers together to address the details of energy efficient financing.

#### *How it would work:*

- Offer one-half day training sessions in cooperation with the Maine Bankers Association. Promote this session as an update on energy efficient financial tools and as a time to solicit feedback from the financial community. Ask attendees how the Maine RES program can better increase the demand for energy efficient financing.
- Offer one of these sessions within six months of Maine RES launching, thereafter on an as-needed basis.

*Target audience:* Loan officers at Maine financial institutions.

*Advantages:* Would help overcome the apparent lack of understanding regarding energy-efficient financing at financial institutions.

#### *Approximate cost:*

- For curriculum development — \$1000 (this cost is relatively low because Mr. Riley already has part of the necessary curriculum designed).
- For delivery of one training session — \$900, expenses included.

### **Building Sustainable Delivery Channels**

Without efforts to sustain it, Maine RES might quickly fade from the memories of home buyers, builders, and others involved with housing in Maine. Maine RES must remain a vital energy efficiency standard for years to come. This must be done on a very limited budget.

This marketing plan has been crafted with the objective of keeping promotional spending as low as possible without reducing effectiveness. One of the primary strategies for doing this is alliances with other groups. Another is a part-time staff person to keep a watchful eye of Maine RES activities.

#### **State Commitment to Implement Maine RES**

In order to sustain Maine RES, there must be a “point person” to answer telephone and e-mail questions, send out literature, track reaction to the program, etc. This point person, whether an employee of State government or a consultant, would help establish an identity for Maine RES, an identity that is vital for the survival of this voluntary energy standard.

*How it would work:* A staff person the on state payroll or consultant will coordinate Maine RES activities, such as training; answer telephone questions; mail and e-mail

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information to Maine residents; deliver promotional presentations; develop new alliances with organizations; maintain existing alliances; remain aware of regional and national energy standard and code activities; maintain working relationships with various state organizations, such as Maine State Housing Authority, Maine Municipal Association, and the Maine State Planning Office; generally engage in market-transforming activities; and advocate for Maine RES.

*Target audience:* Maine builders and contractors, homeowners, energy educators, code enforcement officers, rehab. specialists, and other interested people and organizations.

### *Advantages:*

- This staff or consultant presence would give Maine RES a home and an identity and would be a significant move toward making it sustainable.
- Gives stakeholders a means of obtaining information about Maine RES and energy-efficient residential building in Maine.

*Disadvantages:* High cost.

### *Variations to approach:*

- Hire intern to staff this position (disadvantage to this idea is the turnover rate of interns).

*Approximate cost* — \$10,000 to \$60,000 per year, depending on the time spent on Maine RES business and the pay range of the staff.

### **Alliances with Other State Programs**

Forming alliances with other State organizations and programs is inexpensive and will multiply the market transformation efforts of Maine RES. There are now many organizations in Maine that impact the new and existing housing markets. Effective cooperation from them might require as little as passing out a Maine RES brochure with their own or explaining Maine RES during a training session.

*How it would work:* State organizations that could be approached about incorporating Maine RES include:

- Maine State Housing Authority (MSHA). MSHA's First-Time Buyer Program educates first-time home buyers. This program is delivered by ten of the eleven low-income weatherization agencies. Please refer to Table 6. Another program operated by MSHA is the low-income weatherization program, which targets existing homes. However, some of the eleven agencies that operate this program around the state also build new houses.
- Maine State Planning Office (SPO). The SPO is responsible for training code enforcement officers (CEOs) in Maine. Many of these CEOs have already received a one-half day training session about Maine RES. This session was very

Year	Number of Households Assisted
1996	1,926
1997	2,149
1998	1,975
1999	2,177
2000	1,668
<b>Total</b>	<b>9,895</b>

Source: Housing Facts Report 2000. Data from J. Wainer, Maine State Housing Authority.

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well received by the CEOs. There is good reason to believe that future sessions would also be well received by these professionals. Another important program operated by SPO is the utility Systems Benefits Charge (SBC) fund. These funds, collected from rate payers, will be used for energy efficiency efforts in the state. Attempts should be made to include Maine RES in any related SBC program requiring residential energy efficiency standards.

- Maine Department of Transportation (DOT). The DOT builds and renovates a number of buildings in the state. Many of these buildings are residential in character. In the past, DOT has welcomed training about energy efficient residential construction. There is good reason to believe they would welcome Maine RES training.
- Maine Manufactured Housing Board, a division of the Department of Professional and Financial Regulation: Office of Licensing and Registration. This board is responsible for regulations that applied to 759 manufactured homes placed in Maine in 2000, about 12 percent of all new home construction in Maine. This organization now requires manufactured homes placed in Maine to comply with the 1993 BOCA building code, the energy efficiency requirements of which are significantly lower than Maine RES. Efforts could be made to bring these manufactured housing energy standards up to the level of Maine RES.
- Maine Department of Environmental Protection Air Bureau. This program is involved with public education activities on air quality issues. Because Maine RES has the potential of positively influencing indoor and outdoor air quality, this program is a logical ally.
- The interagency Bundle ME Up task force lead by the State Planning Office and the Governor's Office has developed and distributed public educational materials on energy efficiency and space heating fuels. Perhaps Maine RES could use the Bundle ME Up name and logo and make use of some of the same marketing channels.

*Advantages:* These state programs are already in place. Leveraging them for Maine RES could be effective and inexpensive.

*Approximate costs:*

- Cost for forming alliances — \$300 per alliance.
- Cost for printed information alliance representatives can hand out (assuming it is developed separately)— \$500.
- Cost for one day of training to appropriate alliance organizations — \$900 (the training curriculum developed for builders can be used for these groups also).

### ***Alliances with Community and Not-for-Profit Programs***

Forming alliances with community and not-for-profit organizations is inexpensive, would multiply the market transformation efforts of Maine RES, and could also have a positive effect on the allied organization. There are a number of organizations in Maine that impact the new and existing housing markets. Effective cooperation from them might require as little as handing out a Maine RES brochure with their own or taking a few minutes to explain Maine RES during a training session or meeting with a client.

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*How it would work:* Community organizations that might be willing to ally with Maine RES include:

- The Maine Indoor Air Quality Council (MIAQ) is a statewide educational organization whose membership includes physicians, public school officials, HVAC engineers, home builders, educators, and public officials. MIAQ supports energy efficient buildings that are healthy for their occupants. This organization has been interested in Maine RES from the beginning of program formation and MIAQ wants to remain involved with Maine RES efforts in the future.
- Habitat for Humanity is a program that builds new homes for disadvantaged people. Their new homes should be built to the Maine RES energy level. As with most other community programs, an alliance between Maine RES and Habitat for Humanity can benefit both organizations.

*Advantages:* These community programs are already in place. Leveraging them for Maine RES will be effective, inexpensive, and will probably impact the allied organizations positively.

*Approximate costs:*

- Cost for forming alliances — \$300 per alliance.
- Cost for printed information alliance representatives can hand out — \$500.

### ***Alliances with Building Community and Trade Associations***

Forming alliances with building industry and related trade organizations would be cost effective, multiply the market transformation efforts of Maine RES, and be very positive for the allied organizations. There are a number of organizations in Maine that impact the new and existing housing markets.

*How it would work:* Building industry and related trade organizations that might be willing to ally with Maine RES include:

- The Home Builders and Remodelers Association of Maine (HBRA) represents about 300 residential builders in Maine. This organization has expressed an interest in an ongoing alliance with Maine RES. They are interested in Maine RES training, technical information, and marketing assistance (especially assistance related to the payback of energy efficient measures and the health benefits of energy efficient housing).
- Maine Association of Realtors should be made aware of Maine RES so that their members can be informed and know how to get information about the voluntary energy standard for their clients. In addition, Maine real estate agents should be made aware of the advantageous financing available for those buying Maine RES-compliant and ENERGY STAR-compliant homes.
- Maine Bankers Association should be made aware of Maine RES and the associated advantageous financing available for those buying Maine RES-compliant and ENERGY STAR-compliant homes.
- Suppliers of building materials should be made aware of Maine RES. The best method for informing them and their customers is probably a short brochure explaining Maine RES and how to get more detailed information. Examples of suppliers include Home Depot, Hammond Lumber, and Northeast



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Lumbermen's Association.

Approximate costs:

- Cost for forming alliances — \$300 per alliance.
- Cost for printed information alliance representatives can hand out — \$5000.

*“The primary tool for overcoming these barriers to the adoption of Maine RES is education.”*

### **Links with Industry and Interest Group Web Sites**

Requesting a link to the Maine RES web site is inexpensive and can significantly increase the traffic at the site.

*How it would work:* Possibilities for links to the Maine RES web site include:

- Habitat for Humanity of Greater Portland: This is a locally run affiliate of Habitat for Humanity International, a nonprofit, ecumenical Christian homebuilding organization. Habitat for Humanity is committed to the elimination of substandard housing by building simple, decent and affordable homes in partnership with people in need. <http://www.maine.com/community/habitat>
- Maine Bankers Association: The Maine Bankers Association is a financial services industry trade organization representing the interests of Maine's banking industry, trust companies, and financial service providers. <http://www.mainebankers.com>
- Maine Association of Realtors: Links to the Maine Living Network, which lists active property listings in Maine. <http://www.mainerealtors.com>
- Maine Real Estate and Development Association: A Maine organization for the real estate industry and its adjunct professionals. <http://www.mereda.org>
- Central Maine Power Company: <http://www.cmpco.com>
- Maine Oil Dealers Association: <http://www.meoil.com>
- Chewonki Foundation: The Chewonki Foundation is a nonprofit educational institution organized in 1962. <http://www.chewonki.org>
- American Lung Association of Maine: <http://mainelung.org>
- Maine Indoor Air Quality Council: An interdisciplinary, nonprofit, nonpartisan organization, with a diverse membership of physicians & nurses, engineers, maintenance managers, lawyers, toxicologists, insurers, industrial hygienists, respiratory therapists, educators, architects, legislators, and public policy decision-makers with a mission to promote quality of life through improved indoor environments. <http://www.miaqc.org>

*Advantages:* Requesting a link to the Maine RES web site from another site is as simple as telephoning or e-mailing the webmaster or other representative of the site. This is very inexpensive and is likely to bring increased traffic to the Maine RES site.

*Approximate costs:*

- Cost for contacting approximately ten webmasters — \$200.

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### Summary of Maine RES Marketing Options

If Maine RES is to be sustained, it is absolutely necessary to find a watchful and continuing custodian. This custodian might be a dedicated full-time state employee an existing state employee (or employees) or a consultant.

The proposed marketing options are based on other successful energy efficiency programs listed in Appendix A. The options are summarized in Table 7 with their fixed and variable cost estimates. In an effort to calculate a reasonable total for variable costs, assumptions had to be made. In the last column of Table 7, the “Basis of Variable Cost Calculations” define the six assumptions made for these variable cost calculations.

*“Thus, houses built to the Maine RES efficiency levels would have a resale value from \$1,200 to over \$6,100 higher than similar houses built to current Maine law.”*

The estimates for fixed and variable costs are reasonable and based on the best information available at the time this report was written. However, it is important to keep in mind that they are estimates; policy decisions should not be based on these cost estimates without further study.

Table 7. Summary of Maine RES Marketing Options			
Marketing Options	Estimated Costs		Basis of Variable Cost Calculations/ Total Cost
	Fixed	Variable	
<b>Building Consumer Demand</b> - Development of Promotional Materials	\$30,500	-----	
<b>Building Industry Training and Tools</b> - Housing Industry Training - Maine RES Builder’s Guide . . . - Addendum to MAP - Contractor/Builder Maine RES Certification - Training for Financial Load Officers	\$6,000 \$26,500 \$800 \$800 \$1000	\$900 per training day \$1.50 per CD-ROM ----- \$530 per 30 people \$900 per training day	5 training days 200 CD-ROMs  200 people 1 training day
<b>Building Sustainable Delivery Channels</b> - State Commitment to Implement Maine RES - Alliances of Other State Programs - Alliances with Community and Not-for-Profit Programs - Alliances with Building Community and Trade Assoc. - State Web Site Posting and Links - Links with Industry and Interest Group Web Sites	\$35,000* \$1,800 for training ----- \$5,000 \$500 \$200	\$800 per alliance \$800 per alliance \$800 per alliance ----- -----	4 alliances 3 alliances 2 alliances
<b>Totals</b>	<b>\$108,100</b>	<b>\$16,433</b>	<b>\$124,533</b>

\* A possible range of \$10,000 to \$60,000

### Measures of Success

When a marketing program is implemented, it is important of identify ways to appraise its success as it evolves. The Maine State Planning Office and/or the Department of Economic and Community Development should evaluate the Maine RES marketing efforts six months after implementation. Appropriate alterations should be made to the marketing efforts as a result of this evaluation. Another evaluation should be done twelve months after implementation.

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The following categories can be used as measures of success for the Maine RES marketing efforts.

- *Support and participation by trade associations and builders.* This can be quantified by counting the organizations that have officially agreed to support Maine RES.
- *Participation by building supply dealers.* This can also be quantified.
- *Degree of awareness of builders.* This item is more difficult to quantify because nobody knows the total number of builders in Maine. A count of the number of builders attending the Maine RES training/certifications sessions during the first round should give a good idea of the success of marketing to builders.
- *Number of Builder's Guides requested.* This information might be misleading — a builder having a copy of the Maine RES Builder's Guide will not necessarily build homes accordingly.
- *Number of home buyers demanding compliance with Maine RES.* This information will be difficult to acquire. Perhaps the Home Builders and Remodelers Association of Maine (HBRA) would collect this information for Maine RES.
- *Number of homes, new and remodeled, built to Maine RES standards.* This information could potentially be collected from a number of sources, including MaineStar, HBRA, and Code Enforcement Officers. Both quantitative and subjective information can be obtained from these sources.

## **Appendix A: Summary of Program Models Used for the Development of a Marketing Plan for the Maine Residential Energy Standard (Maine RES)**

### **Introduction**

This report summarizes four energy programs examined as models for the marketing strategy for the Maine Residential Energy Standard. These four programs are:

- The ENERGY STAR Homes Program, funded by the Environmental Protection Agency and the Department of Energy;
- The Weatherization Assistance Program, funded by the Department of Energy;
- The New York State Energy Smart Program; and
- The Maine Star Program (now obsolete).

These programs were selected because they are voluntary energy-efficiency building programs, as is Maine RES. The first two have well developed marketing strategies resulting from a relatively long history. The third and fourth were selected because they are state programs.

Each of these program models has the stated or implied objective of market transformation. The plan for one of the studied programs states that:

Market transformation is a strategic effort to induce lasting structural and behavioral changes in the marketplace that result in increased adoption and penetration of energy-efficient technologies and practices. Long-lasting, sustainable changes are achieved by reducing barriers to the adoption of energy efficiency measures to the point where further publicly-funded intervention is no longer appropriate in that specific market.<sup>34</sup>

The use of an intelligent marketing strategy for Maine RES is vital if it is to be successful. Unlike the residential energy standards in most states, Maine RES is voluntary and, therefore, will not benefit from the type of compliance that enforcement can foster. Some analysts think voluntary standards are preferred over mandatory energy codes:

“Market-driven voluntary programs have been embraced nationally by the housing industry as the most effective method of improving the energy efficiency of new housing.”<sup>35</sup> In the January 1997 issue of *Builder Magazine*, Don DeLess of the National Association of Home Builders urged members to adopt voluntary energy programs: “It’s in a builder’s best interest to get involved in a voluntary energy program. If we can demonstrate strong participation by the industry, we can convince governmental regulatory agencies that market-driven programs are more effective than less flexible, mandated codes.”

It is likely that a voluntary standard backed by an intelligent marketing strategy has a better probability than a mandatory code of transforming the market in a sustainable manner.

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<sup>34</sup> *Proposed Plan for Public Benefit Programs Funded by System Benefits Charge*, New York State Energy Research and Development Authority, May 8, 1998, page 4-1. This report is the basis for the New York State Energy Smart Program.

<sup>35</sup> Steve Baden, “A Winning Combination: Linking Codes with Home Energy Ratings,” Presented at the 1999 National Conference on Building Energy Codes.

## **ENERGY STAR Homes Marketing Toolkit CD-ROM**

### ***Description of Program***

The ENERGY STAR program was created by the US Department of Energy and the Environmental Protection Agency to help consumers quickly and easily identify appliances and other products, such as houses, that save energy. The ENERGY STAR program also rates household appliances, home electronics, office equipment, heating and cooling equipment, windows, and other products. The ENERGY STAR label is broadly recognized by the American public.



All compliance with the various ENERGY STAR standards is voluntary. Of the programs examined for this study, ENERGY STAR is the most successful. This is probably due to marketing methods, supporting resources, relatively long history, and broad base of the various ENERGY STAR standards. The ENERGY STAR Homes Program was the only of the many ENERGY STAR marketing programs examined in detail for this study.

A home built to the ENERGY STAR standards uses 30% less energy than if it were built to the 1993 Model Energy Code (MEC). All ENERGY STAR homes must be certified as complying with ENERGY STAR standards by a Home Energy Rating System (HERS) audit.

### ***Program Marketing Strategy***

The overall marketing program for the ENERGY STAR is as broad as the program itself. For this study only the marketing methods for the ENERGY STAR Homes Program were examined because this voluntary program for is similar to Maine RES.

The primary marketing tool for the ENERGY STAR Homes Program is the *ENERGY STAR Homes Marketing Toolkit CD-ROM* for builders. This packed CD-ROM includes the following chapters:

- ENERGY STAR Homes Overview
- Blueprint for Your Success
- Tools for Success
- Financial Foundations
- Network of ENERGY STARs

Each of these chapters includes at least five subchapters.

The marketing strategy for this national program has a number of outstanding features:

1) The marketing tone is one of espousing the benefits of the program so that builders and home buyers will **choose** to be a part of the program rather than being coerced by the dictates of a mandatory program. It is characterized by demand-pull — consumers asking for an ENERGY STAR home — rather than demand push — a mandatory energy code forcing its use.

2) The marketing efforts are leveraged or multiplied by the formation of alliances with consumers, builders, trade associates, material suppliers, utilities, service providers (e.g., HERS raters), lenders and realtors.

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3) Related to number two, the marketing strategy includes “co-branding” with the allies. The ENERGY STAR organization supplies logos and other media tools so that builders and other allies can easily identify their business with ENERGY STAR.

4) It is very easy to become an ENERGY STAR ally and everybody wins. It is free, voluntary, and all the related marketing materials are available. Builder recruitment materials are available, including a slide show, a detailed home builder guide, and free builder training. A sales presentation slide show is available along with suggestions for builder promotion of ENERGY STAR homes. Most of the promotion materials have already been put together by the ENERGY STAR organization, making it very easy to become a player in the program. There is nothing to lose for a builder or homeowner.

5) The obstacles to building an ENERGY STAR home have been removed. For example, the average home built to the programs standard will cost about \$3000 more. Energy efficient financing — when explained in the marketing materials — makes it painless to borrow this extra money. Program software shows builders and homeowners how monthly cash flow increases as a result of the spending the additional \$3000 for the program features.

### **Lessons for Maine RES**

As a model for the Maine Residential Energy Standard, the ENERGY STAR Homes Program has much to offer. Certainly, this program is the best or one of the best models for Maine RES marketing, however, because of limitations of funding and personnel, the marketing strategy for Maine RES cannot incorporate all of its features.

ENERGY STAR offers the following to builders. After each item are comments regarding the appropriateness of this item as part of the marketing strategy for Maine RES.

- The ENERGY STAR brand  
*This can be done for Maine RES if a logo is developed.*
- Marketing toolkit  
*A marketing toolkit can be developed for Maine RES, although it cannot be as extensive as the ENERGY STAR toolkit.*
- Home Calc software  
*MECcheck software can be used for compliance with the Maine RES, but we do not have the resources in Maine to develop a financial/marketing software like Home Calc.*
- ENERGY STAR financing  
*Probably more than one-half of the Maine RES homes will qualify for ENERGY STAR financing. For those that don't qualify, other energy efficient financing will be available.*
- Sales training workshop  
*The marketing strategy for Maine RES should include training for builders and others who are directly or indirectly involved as allies. A part of this training should address the topic of marketing Maine RES homes.*

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- Consumer video, fact sheets, and seminars  
*Limited resources will prevent the funding of a Maine RES consumer video, but fact sheets and seminars for consumers are a possibility.*
- Information packs and brochures  
*Brochures will be a necessary part of the Maine RES market efforts.*
- Comprehensive builder guide  
*Again, limited resources will prevent the funding of this guide through Maine channels. However, Maine might be able to become part of the nine-state project funded by DOE for builder manuals.*

As much as possible, Maine RES should adopt the five broad characteristics of the ENERGY STAR marketing strategy, as listed above under Program Marketing Strategy. Simply stated: Promote the benefits, leverage the program, co-brand with allies, design the program so that everyone involved wins, and remove any obstacles.

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### **Weatherization Assistance Program: *Weatherization Works! Marketing Tool-Kit***

#### ***Description of Program***

The weatherization Assistance Program (WAP) is a government program funded through the Department of Energy. Low-income families receiving fuel assistance must have their homes inspected and, if appropriate, weatherized.

Over the years this program has been delivered by social service organizations, usually nonprofit community action corporations (CAPs). Generally, the weatherization (Wx) function of these 970 CAPs is only one of many. Because most CAPs have a waiting list for Wx work, marketing methods have not been used.

During the last five to ten years, funding for the WAP program has been cut by 50%. Since this large cut, the funding has been increasing slightly but steadily each year. Perhaps because of the vulnerability of funding, the leaders of the WAP efforts at the national level determined it would be advantageous to leverage Wx efforts by encouraging the CAPs to engage in marketing activities.

“ . . . many agencies [CAPs] hesitate to engage in these [marketing] activities due to limited experience, time, or resources. To begin addressing the need for educational materials, the *Weatherization Works! Marketing Tool-Kit* has been developed by members of the Weatherization network. . . These volunteers recognized the need for a coordinated marketing effort and worked together to determine the desired outcomes, and the necessary tools, and the appropriate methodology that would best serve all agencies. . . Our coordinated [marketing] efforts will help to strengthen and expand the Weatherization Assistance Program as we enter the next millennium.”<sup>36</sup>

Unlike the ENERGY STAR program, this is not a program driven by benefits and choice, but a program driven by need. This significant difference in character makes marketing less important for the WAP program and, in some ways, an uncomfortable fit. However, because the objectives of WAP are related to those of Maine RES — saving energy in residential structures — it is useful to examine the *Weatherization Works! Marketing Tool-Kit*.

#### ***Program Marketing Strategy***

The *Weatherization Works! Marketing Tool-Kit* portrays a grassroots marketing strategy and one that is much narrower than the ENERGY STAR marketing strategy. This narrow approach is appropriate for the WAP.

The major components of the *Weatherization Works! Marketing Tool-Kit* include:

- Working with the media, including local newspapers, newsletters, radio stations, and television stations.
- Connecting with constituency groups, including seniors, child welfare organizations, and other low-income assistance organizations.
- Educating public policy makers, including mayors, selectmen, city managers, school

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<sup>36</sup> From cover letter for *Weatherization Works! Marketing Tool-Kit* written by Gail McKinley, Director, Office of Building Technology Assistance, Energy Efficiency and Renewable Energy, Department of Energy, November 30, 1999.



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board members, state representatives and state senators.

- Attracting leveraging partners, including appliance manufacturers, utilities, private companies, and other related community-based organizations.

The marketing strategy for this low-income program has a number of outstanding features:

- 1) The tone is positive and emphasizes the benefits of the program.
- 2) The sociopsychological concepts of social diffusion and modeled behavior also characterize the strategy.
- 3) Marketing efforts are leveraged or multiplied by the formation of alliances with and the education of community-based organizations and leaders.

### ***Lessons for Maine RES***

As a model for the Maine Residential Energy Standard, the WAP marketing strategy is helpful. However, because WAP is a publicly funded benefits program, it does not closely match Maine RES.

As much as possible, Maine RES should adopt the three broad characteristics of the WAP marketing strategy, as listed above under Program Marketing Strategy. Simply stated: Promote the benefits, use social diffusion techniques, and leverage the program.

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## New York State Energy Smart Program

### Description of Program

The New York State EnergySmart program is part of the New York public benefit program funded by the systems benefits charge.<sup>37</sup>

The energy efficiency program will help transform markets for more energy-efficient products through upstream incentives to trade allies, including incentives for new construction, and existing building performance initiatives and offering financial incentives in the form of low-interest, revolving loans. The energy efficiency program will also facilitate the development of an expanded and comprehensive energy services industry and technical assistance network providing value-added services to customers across New York State.<sup>38</sup>

The broad plan for this comprehensive energy-saving program is stated as:

. . . innovative marketing techniques and tools; consumer education and protections; cost-effective purchasing by the consumer and delivery of measures; certified building performance contractors; development of best practices field guides; and the development of financing mechanisms for purchase of Energy Star projects and services.<sup>39</sup>

The specifics of the program include:

- An alliance with the ENERGY STAR program, including full leveraging of all ENERGY STAR features.
- The Energy Smart University, a web informational site about energy-saving measures and deregulation of the electric industry.
- An electric sub metering program for multifamily business owners.
- A loan fund providing interest rate reductions for financing Energy Star-compliant appliances and a broad range of residential and commercial energy-saving measures and equipment. Qualifying candidates and measures can have their loan interest rate reduced by 4.5 percent.
- An effort to increase the number of certified ENERGY STAR Home builders.
- An Energy Smart Internet store for purchasing energy-efficient products online.
- An online energy analysis of homes with customized recommendations for improving energy efficiency.

<sup>37</sup> For the final plan submitted to the New York Public Service Commission, see *Proposed Plan for Public Benefit Programs Funded by System Benefits Charge*, New York State Energy Research and Development Authority, May 8, 1998.

<sup>38</sup> *Proposed Plan for Public Benefit Programs Funded by System Benefits Charge*, New York State Energy Research and Development Authority, May 8, 1998, page S-2.

<sup>39</sup> *ibid.*, page 4-31.

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- Internet information regarding saving money during the heating and cooling seasons.
- The Home Performance Program to increase the number of trained and qualified contractors to provide home performance services.

### **Program Marketing Strategy**

The marketing strategy for this statewide program includes the following characteristics.

1) The marketing tone is one of espousing the benefits of the program so that builders and home buyers will **choose** to be a part of the program rather than being coerced by the dictates of a mandatory program. It is characterized by demand-pull — consumers asking for an ENERGY STAR home — rather than demand push — a mandatory energy code forcing its use. “Consumer education strategies will be designed around promoting the personal benefits of energy efficiency products and services, and the emerging options for residential customers attendant to electric restructuring.”<sup>40</sup>

2) Solicitation of statewide support from political leaders (the Governor), regulatory agencies (Public Service Commission), trade allies (building contractor groups), utilities, and advocacy groups.

3) Leveraging of existing programs. These existing programs include ENERGY STAR appliance program, ENERGY STAR Home program, DOE Low-Income Weatherization Program, and the Building Performance Contractors Association.

4) Multimedia marketing program, including:

- Television and radio ads.
- Newspaper and newsletter ads.
- Internet site (<http://www.getenergysmart.org>).
- Cooperative advertising with trade allies and suppliers.
- Brochures and other informational pieces for consumers.

5) Self-help techniques to foster interest from consumers, including online home energy analysis, online listing of the latest related events, and online press releases.

6) Efforts to remove market barriers to consumer adoption of energy-efficient products and lifestyles. The market barriers are identified as:<sup>41</sup>

- *Perception of increased costs.* Many designers, developers, and owners feel that increased building performance costs more and that it is not cost-effective.
- *Risk aversion.* The building industry is slow to adopt new technologies or methods. Designers and builders prefer to install systems and build buildings using familiar technologies. Liability issues are also a concern.
- *First cost vs. life cycle cost considerations.* Some building owners are only concerned with first costs. In addition, if operating costs are passed on to tenants, the incentive for owners to reduce this costs is minimized.
- *Limited technical information.* Designers, developers, and owners often have limited

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<sup>40</sup> *ibid.*, page 4-31.

<sup>41</sup> *ibid.*, page 4-27.

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familiarity with new products, technologies, and their applications, and the associated benefits that extend beyond energy savings (comfort, durability, health, productivity, and maintenance).

Market intervention to remove market barriers includes builder and consumer education, loan interest reduction, appliance labeling (ENERGY STAR), home efficiency labeling (HERS), and making it easier for consumers to find and purchase equipment with an online store at the Energy Smart web site.

### ***Lessons for Maine RES***

As a model for the Maine Residential Energy Standard, the New York Energy Smart program has much to offer. Certainly, this program is the one of the best models for Maine RES marketing, however, it is more comprehensive Maine RES was ever intended to be, so many of its features are inappropriate. The six numbered marketing strategies listed above under Program Marketing Strategy should be adopted, as appropriate, for Maine RES.

Although the Energy Smart program is intended to be broader than Maine RES, the market barriers identified in the *Proposed Plan*<sup>42</sup> are probably similar to those that will be encountered by Maine RES.

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<sup>42</sup> *Proposed Plan for Public Benefit Programs Funded by System Benefits Charge*, New York State Energy Research and Development Authority, May 8, 1998.



## **MaineStar Residential Energy Conservation Program**

### **Description of Program**

*MaineStar* was a Maine version of the national ENERGY STAR program, in fact, *MaineStar* was an ENERGY STAR Homes Ally. The program is now obsolete. “*MaineStar* is a voluntary market driven activity whose mission is to serve as an independent, non-biased resource to provide Maine home buyers and the current home owners with straightforward technical and financial advice to help them increase the energy efficiency of their homes.”<sup>43</sup>

“*MaineStar* was specifically designed to:

- Determine what the current energy performance of a home is using the nationally accepted Home Energy Ratings System (HERS) audit program;
- Identify the most cost effective energy conservation improvements that could be made to a new or existing home (including solar and some other renewable energies); and then
- Link that home buyer/owner with a growing number of Energy Efficient Mortgage (EEM) and Energy Efficient Financing (EEF) products where their average monthly energy savings are greater than the monthly payments to finance those energy conservation measures.”<sup>44</sup>

Before Wes Riley left the York County Community Action Corporation in mid 2001, he was developing *MaineStar* on a very tight budget and without assistance from others. The *MaineStar* program was well defined, had a brochure, fact sheet, web site ([www.mainestar.org](http://www.mainestar.org)), and was listed on the Northeast Home Energy Rating System Alliance web site ([www.energyratings.org](http://www.energyratings.org)) as a member.

### **Program Marketing Strategy**

Wes Riley was in the process of developing a detailed market strategy for *MaineStar*. The details of this strategy were to focus on the consumer, rather than the builder.

### **Lessons for Maine RES**

*MaineStar* is included in this summary report because it was intended to ally with to Maine RES. As an ally, the marketing strategies of *MaineStar* and Maine RES would have evolved jointly.

If Maine RES is to be viable and sustaining, there must be third-party verification of voluntary compliance. Although *MaineStar* is now obsolete, third-party verification can be performed by certified HERS auditors in the state. Some industry experts think that compliance with a voluntary residential energy standard, like Maine RES, can be significantly increased by HERS verification.<sup>45</sup> Using HERS as a third-party compliance

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<sup>43</sup> *MaineStar* information sheet, October 1, 1999.

<sup>44</sup> *ibid.*

<sup>45</sup> See *Home Energy Ratings and Energy Codes — A Marriage that Should Work* by Malcolm Verdict, Philip Fairey, and Michael

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tool for Maine RES should be used as part of the marketing strategy. HERS can provide market incentives for compliance, including:

- Ratings can be linked to market-based incentives by providing documentation for increasing a home's appraised value.
- Ratings help increase competition among rated homes by providing a basis for comparison.
- Ratings provide the economic data necessary to make tradeoffs among competing housing components, i.e., more efficient windows versus increased wall insulation.
- Energy ratings are more easily understood by buyers and can be prominently displayed by the seller.
- Ratings provide a comparative economic analysis useful to consumers, lenders, and appraisers.<sup>46</sup>

In addition, a HERS rating supplies the information required by a financial institution for an energy efficient mortgage. "Through the market force of home energy ratings and energy mortgages, investing in making homes energy efficient will have the positive effect of making housing *more* affordable, not less affordable."<sup>47</sup>

The *MaineStar* program would have helped Maine RES reach its primary objective: an increase in the energy-efficiency level of the housing stock of Maine. Some of the advantages *MaineStar* had to offer to Maine RES can still be supplied by independent HERS raters, who also certify ENERGY STAR homes. Suggested **cooperation** in marketing and leveraging includes:

- Placing ENERGY STAR-level certification on the Maine RES stick-on label.
- As part of the ENERGY STAR certification, trainees should be informed of Maine RES program standards and instructed how to certify a home as Maine RES compliant.
- All training efforts for Maine RES should include an overview of the ENERGY STAR organization and specifications.
- The feasibility of collaborative marketing and advertising should be considered when brochures or fact sheets are drafted for either organization.

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DeWein, Proceedings from the 1998 ACEEE Summer Study on Energy Efficiency in Buildings, ACEEE, Washington, DC [<http://www.ase.org/profess/technical/herspaper.htm>] and *A Winning Combination: Linking Codes with Home Energy Ratings* by Steve Baden, presented at the 1999 National Conference on Building Energy Codes.

<sup>46</sup> *Home Energy Ratings and Energy Codes — A Marriage that Should Work* by Malcolm Verdict, Philip Fairey, and Michael DeWein, Proceedings from the 1998 ACEEE Summer Study on Energy Efficiency in Buildings, ACEEE, Washington, DC.

<sup>47</sup> *A Winning Combination: Linking Codes with Home Energy Ratings* by Steve Baden, presented at the 1999 National Conference on Building Energy Codes.

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### **Appendix B: Stakeholder Groups Consulted for the Derivation of Maine RES**

American Lung Association of Maine  
Bangor Hydro Electric Company  
Building Codes Assistance Project (BCAP)  
Central Maine Power Company  
Home Builders and Remodelers Association of Maine  
Lawrence Berkeley Laboratory  
Maine Community Action Association  
Maine Public Service Company  
Maine Indoor Air Quality Council  
Maine Realtors Association  
Maine Bankers Association  
MaineStar Organization  
*MaineStar* Home Energy Ratings Program  
Municipal Code Enforcement Officers  
National Sun Room Association  
New Buildings Institute  
Northeast Energy Efficiency Partnerships (NEEP)  
Pacific Northwest national Laboratory  
Southern Maine Technical College, Construction Technology Department  
Weatherization Assistance Program, Technical Committee & Boston DOE Office  
Program Manager  
Weatherization Assistance Program, Housing Directors