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Environmental Stewardship of the Vermont Ski Industry and the Public's Willingness to Support

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Environmental Stewardship of the
Vermont Ski Industry and
The Public's Willingness to Support

BY

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SUBMITTED IN PARTIAL FULFILLMENT OF REQUIREMENTS FOR
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As environmental concerns are becoming a media darling, more and more Americans are growing aware of catastrophic potentials if we do not address current, energy over-consumptive ways of conducting our lives and doing business. Information regarding the negative effects of individual actions on water and air quality is frequent and clear. Through internet, television and print marketing programs, the American public is being told about conservation, energy star products, reducing, reusing and recycling and cost-saving, energy-saving innovations like compact fluorescent light bulbs. Are Americans getting it? If so, do they care what their actions mean to the environment or are they too set in their consumptive ways to want to do anything for a future that is mostly unknown and future generations we have not yet been introduced to.

This project examines the impact of global warming on the ski industry in Vermont. Through interviews and surveys, it evaluates the effects of efforts by resort owners to reduce their carbon footprints and the extent to which their customers are supportive of these efforts by choosing to visit environmentally-sensitive resorts, even if the cost is higher. It also tests whether those customers would be willing to support taxes to fund environmental improvements.

It took a major environmental disaster known as Hurricane Katrina (CNN.com, 2005) to wake up the U.S. masses. Global climate change was finally a dominant media interest, an issue that the federal government could no longer deny (Office of the President of the United States of America, 2007). According to the Union of Concerned Scientists,

Global warming is one of the most serious challenges facing us today. To protect the health and economic well-being of current and future generations, we must reduce our emissions of heat-trapping gases by using the technology, know-how, and practical solutions already at our disposal (Union of Concerned Scientists, 2007).

The repercussions of doing business as usual are far ranging and predicted to include severe droughts, increased numbers of forest fires, species extinction such as the polar bear (Center for Biological Diversity, 2007), shift of the wheat producing zones from the mid west United States into Canada and Alaska, increased poverty in developing nations because of overwhelming drought conditions, in addition to obliteration of low-lying islands due to an increase in sea levels because of melting of the Polar Ice Cap and Greenland ice sheet (Miller, 1996).

The effects of global climate change also include frequent significant, damaging and deadly storms such as Hurricane Katrina in 2005. These storms historically have been referred to as “100 Year” storms because they were expected to occur once every 100 years (Miller, 1996). Global warming has made the occurrence of devastating storms much more frequent. Temperatures are rising. The Intergovernmental Panel on Climate Change (IPCC) predicted an average global rise in temperature of 2.5°F to 10.4°F between 1990 and 2100 (Intergovernmental Panel on Climate Change, 2007). “The Northeast is already experiencing rising temperatures consistent with global warming, and dramatic warming is expected later this century. Just how high temperatures rise depends on our heat-trapping emissions” (Union of Concerned Scientists, 2006). A majority of scientists have agreed that global climate change is taking place and that human actions are a large contributing factor.

The repercussions of a warmer planet will be very serious unless we take action now to mitigate our impacts. Everyone is responsible for tackling this earth crisis. The United States is a major contributor to greenhouse gas emissions through consumption of energy. Americans “account for only five percent of the world’s population but consume 26 percent of the world’s energy” (World Watch Institute, n.d.). “In 1997, U.S. residents consumed an average of 12,133 kilowatt-hours of electricity each, almost nine times greater than the average for the rest of the world” (Solar Energy International, n.d.). “America uses about 15 times more energy per person than does the typical developing country” (Solar Energy International, n.d.). “Total U.S. residential energy consumption is projected to increase 17 percent from 1995 – 2015” (U.S. Energy Information Administration, n.d.).

Although developing nations will have an enormous impact on energy consumption and therefore the release of greenhouse gas emissions, the United States must act to curb its own “energy hog” ways. Along with industry, American consumers must face the truth of their energy consumption and make a commitment to responsibly reducing impacts.

The President’s 2007 State of the Union address was a step in the right direction for the U.S. federal government which has refused to ratify the Kyoto Protocol (United Nations Framework Convention on Climate Change, 2007). Citizen action will help push federal, state and local governments into action on the issue of global climate change. According to a July 5, 2005 poll from The PIPA/Knowledge Networks Poll - The American Public on International Issues, “Virtually all respondents—94%—said the US

should limit its greenhouse gases at least as much as the other developed countries do on average. Nearly half—44%—think the US should do more than average” (Kull, 2005).

Tools that will allow policy makers to truly represent the will of the people by addressing global climate change may include:

- Cap-and-trade systems where emission standards are set and divided into allowable tons of carbon with each industry member given an equal share number of carbons they can use or, if not used, sold to other industry members (Union of Concerned Scientists, 2005);
- Mandated conservation;
- Legislated use of currently available technology by auto manufacturers (Neal, 2007); and
- Tax credits for alternative energy sources through laws such as the extension of the Securing America’s Energy Independence Act - S. 590, H.R. 550 (GovTrack.US, 2007).

On the state level, The Douglas Environmental Plan for State Government has positioned the Vermont government as a catalyst in the state for renewable energy and sustainable commercial practices. The plan sets out numerous actions the state will take in managing government business and spending its budget in order to address the impacts of global warming. Since governments are traditionally one of the largest consumers, the Vermont government’s emphasis on being a conscious environmental consumer will have far-reaching impacts (Vermont Department of Buildings and General Services, 2003). In conjunction with The Strategic Vision and Business Plan for Job Creation and Economic Advancement which addresses the issues of retention, recruitment and entrepreneurship in the state (Vermont Department of Economic Development, 2005), Vermont has partnered with, for example, the Vermont Environmental Consortium “...to support the emerging environmental product and services industry in Vermont” (Vermont Department of Economic Development, 2005). Through this, and other partnerships, Vermont is able to provide its citizens with meaningful work and is helping to lower the

state's greenhouse gas emissions through education and implementation of emerging technologies while assuring that the state lives up to its "green" reputation to meet the expectations of its most important industry - tourism.

Being "green" is a popular conversation in Vermont. Existing businesses are moving to fulfill their customers' assumptions that Vermont is one of the leading states in prioritizing the negative effects of fossil fuel emissions. New, environmentally-minded businesses are emerging to fill this growing market. As stated earlier, "With sponsorship by the Department of Economic Development, the Vermont Environmental Consortium was established to support the emerging environmental product and services industry in Vermont. The VEC helps member companies develop markets and is working with Vermont higher education institutions to help train the workforce that will supply employees to companies as they grow" Strategic Vision and Business Plan for Job Creation and Economic Advancement (Vermont Department of Economic Development, 2005). As well, the state is helping businesses and individuals to minimize their impacts with rebate programs such as the Solar and Small Wind Incentive Program (Hill, 2003). In addition, another Vermont policy currently being contemplated is House Bill H.520 which would increase access to renewable energy (Renewable Energy Vermont, 2007). Additionally, the *Report on the Vermont Clean Energy Development Fund*, (Vermont Department of Public Service, 2006) puts more money on the table for development of clean energy technologies, education and support for businesses and individuals who use it.

With the Vermont government's support of carbon reducing energy production and consumption, conducting business in Vermont can be a greening experience. In

particular, the cold weather sport industry has acknowledged that global climate change will have a dramatically negative impact on their ability to provide winter recreation, thereby limiting their ability to do business. *Greening Your Ski Area, A Pollution Prevention Handbook*, produced by the Environmental Protection Agency and the Colorado Department of Public Health and the Environment, (EPA, CDPH, 2002) details specific guidelines on how ski areas can minimize their carbon footprint, thereby helping to decrease greenhouse gases emitted into the atmosphere. In the Northeast, the “Keep Winter Cool” campaign, “a joint initiative of the National Ski Areas Association and the Natural Resources Defense Council” has encouraged ski areas to buy their power from alternative sources such as wind, solar and agricultural resources, in addition to educating their guests about global warming (Keeler, 2004).

Vermont is a resort state. It relies on tourism as an economic stronghold. The ski industry is a leader in this market. The ski industry, particularly in the Northeast, is also an indicator species of global warming. The warmer temperatures are being felt by ski resort operators in the shorter season driven by an inability to make snow when the thermometer rises too high. The Northeast is hardest hit because the mountains are relatively low, whereas those in the West can move up the mountain to find colder temperatures. In Vermont, five months of jobs and economic vitality each winter may be “left out in the cold” or warm, if you will, if the negative effects of global climate change are not actively addressed. Organizations such as the Vermont Land Trust, The Nature Conservancy, Ascutney Mountain Audubon Society, Friends of the Mad River, the Green Mountain Club, the Association of Vermont Recyclers, the Vermont and the National Ski

Area Associations are binding together to strategize and develop volunteer programs in an attempt to mitigate greenhouse gas effects in the ski industry.

Actions such as executing water saving and water quality protocols, implementing efficient snowmaking equipment, using hybrid or four stroke vehicles for on-mountain skier transportation, grooming and ski patrol functions, practicing conservation of energy wherever possible in the main lodge and other buildings by using compact fluorescent light bulbs, water aerating adapters, energy efficient heating and cooling systems, insulation wherever feasible, energy efficient appliances, recycled or re-used building products, buying energy from renewable sources or producing energy on site through wind and solar technologies, reducing, recycling and reusing customer waste wherever feasible, limiting impervious surface and impact on natural ecosystems, and making “carbon coupons” available for purchase to help offset the carbon loads of the transportation skiers use to get to the mountain are some of the techniques employed by resorts in their quest for sustainability. However, ski resort businesses are generally not obligated or mandated to adopt these actions. Some resorts are adopting a few of these measures, some none at all. Public pressure could change this situation. By demanding better environmental stewardship and by supporting resorts that demonstrate they are doing all they can to mitigate their carbon footprint, individuals will impact the way ski areas do business. This same public pressure will ultimately cause legislators who have the authority to impose laws and regulations in order to compel mountain resorts to take positive environmental action.

The research objectives of this project are to find out:

1. Are consumers supportive of environmental “greening” and are they willing to pay

more for environmental stewardship?

2. Are those who choose to visit resorts willing to pay more for a resort that has proven itself to be environmentally sustainable?
3. Are mountain resorts that tout themselves as “green” really green or are they simply “green washing” as a marketing tool?

“A large majority of Americans--85%--say global warming is probably happening, according to a new TIME magazine/ABC News/Stanford University poll. An even larger percentage (88%) thinks global warming threatens future generations” (Poll: Americans, 2006). Global warming is a result of the burning of fossil fuels for mass consumption of consumer goods, driving SUVs, heating and cooling homes, running ski lifts, making snow, etc. When there are too many people who have gained enough wealth to be able to buy vast amounts of consumer goods that use fossil fuels to be produced and then use fossil fuels to operate, the problems begin. We see the results in lowered air and water quality, smog, contaminated sites, impervious surface, tainted runoff, ecosystem extinction, wetland degradation, urban heat islands, suburban sprawl, congestion, and negative health effects. According to the World Watch Institute in their report, American Energy, The Renewable Path to Energy Security,

More than 150 million Americans—more than half the nation’s people—live in areas where air quality threatens their health. A 2005 study by the Mount Sinai School of Medicine’s Center for Children’s Health and the Environment estimated that the cost in lost productivity to the U.S. economy due to mercury’s impact on children’s brain development totaled \$8.7 billion per year (World Watch Institute, 2006)

The ultimate result of fossil fuel consumption is global warming which has already affected weather patterns and will continue and worsen as the planet heats up. Although developing nations such as China and India are of grave concern as their citizens endeavor to enjoy the same conveniences and advantages as those in industrialized nations, “In total, the average American consumes five times more energy than the average global citizen, 10 times more than the average Chinese and nearly 20 times more than the average Indian” (World Watch Institute, 2006).

With these statistics, it is tempting to throw up our hands and declare the problems insurmountable. However, we have the ability to change our consumption habits.

The American Energy report states,

The city of Atlanta improved public transit and limited downtown vehicle use for the 1996 Olympic Games, cutting peak ozone concentrations by more than 25 percent and reducing by 42 percent the number of asthma acute care events in the Georgia Medicaid claims files (World Watch Institute, 2006).

New York City Mayor Bloomberg's Congestion Pricing Plan would secure similar results but the mayor continues his struggle to get this policy passed. Government policy has an enormous impact on energy consumption. If Mayor Bloomberg were able to put his plan into effect, the cost of commuting would be higher, forcing people to look for carpooling and mass transit options to alleviate the extra expenditure. Whether the infrastructure is currently in place to accommodate these alternatives remains to be seen. However, London, a city similar in population (7,518,000 in 2005) (British Life and Culture, 2005) to New York (8,085,742 in 2003) (U.S. Census Bureau, 2003) was successful in enacting a congestion pricing law. "In London, in response to a toll enacted in early 2003, traffic levels dropped by an average of 16 percent in the first few months, and most former car users began commuting by public transit" (Global Energy Use Trends, 2007). The tangible results are proven. New York still struggles to get this law passed. We wonder why.

Is cost the sole driving factor of what types of laws we choose to support and how we choose to conduct our lives? "The amount and type of energy we consume is a result of two kinds of choices: those we make as a society and those we make as individuals and families" (Global Energy Use Trends, 2007). The consumer ultimately makes

choices as to the consumption of goods and services in the cars they choose to drive, the shelter they choose to live in, the distance they travel to and from work, the food they buy, the clothing they choose to wear, where they take their vacations and how they get there. Individuals have enormous power in energy consumption, in how corporations' fulfill consumer demand, and the resulting externalities of production on the environment and human health.

An example of many individuals' lack of connection to what is purchased with its impact on the world is articulated in *Oil and Ethics: American Consumption and Entitlement Egoism* published on the "bluesmokeband" website, "An average American consumer has no idea what the local tomato season is" (Sorrell, 2004). Fertilizers and pesticides to encourage perfect tomatoes in monocultures that are susceptible to pests and disease, plastics to wrap the tomatoes in so they look scrumptious, fuel to transport the tomatoes to various stores, refrigeration for tomatoes sold during the off season, asphalt to pave the roads upon which delivery trucks travel, and production of and fuel needed to power massive SUVs transporting consumers to the store to buy the tomatoes all contribute to energy consumption and externalities far beyond the price on the orange sticker. However, there are consumers who are coming into consciousness about their energy choices and are willing to make changes in their own lives in addition to supporting policies and businesses that promote sustainable practices.

In 1995, Roper Starch Worldwide, a polling company, conducted a public opinion survey designed to understand "American attitudes, behaviors and knowledge regarding the environment, and how individual and collective choices can either positively or negatively impact protection of our natural resources" (Sustainable Development, 1995).

The Roper poll measured the three principles of sustainability namely, economic growth, environmental protection and the health and happiness of people. The poll was conducted of 1,002 men and women, 18 and over in face to face interviews. The results showed that "...by a two-to-one majority, Americans endorse the principles of sustainability, and are posed to act on them" (Sustainable Development, 1995). The poll showed "66% of Americans agree these can be accomplished without sacrificing any one of them" (Sustainable Development, 1995).

In another poll, the Roper Green Gauge Report was developed to understand "American's environmental views and concerns" (Roper Starch Worldwide, 1996). This report was ongoing from 1990 through 1996 and shows the following:

10% of the total U.S. population is the most environmentally proactive and willing to spend a 7% premium on average for environmentally friendly products. 5% of U.S. consumers...state they are willing to pay a 20% premium for green products and 1/3 of U.S. consumers falling into another category of green shoppers state they are willing to pay a 4% premium...a full 50% of U.S. consumers are concerned about the environment and are willing to pay more for ecologically-friendly products (Roper Starch Worldwide, 1996).

A survey conducted by the Gallup Organization concerning U.S. public opinion on the environment reveals that in 1990, 71% of those polled felt the environment was only fair or poor while 27% said it was in excellent or good shape and 1% stated they were unsure. In 2006, 60% of those polled felt the overall quality of the environment in this country was only fair or poor while 40% felt it was in excellent or good shape. From 1990 to 2006, a drop of 11% of the U.S. population or 33,000,000 people felt the environment was either fair or poor, while an extra 39,000,000 people felt the overall quality of the environment was in excellent or good shape (Gallup, 2006). This rise in

environmental confidence could reflect any number of positive pollution-control steps that have been taken such as actions to stop point-source pollution and elimination of Chlorofluorocarbons (CFCs) to combat the widening of the hole in the ozone layer. However, the issue of global warming continues to be a source of serious concern.

Additional U.S. public opinion environmental surveys have been conducted by Stanford University. Some results of various studies include an Energy Sources Survey in September 2006 in which the following statement was made to respondents who were then asked to rate the response provided, “You feel so strongly about curbing global warming, increasing energy conservation and finding new energy sources, you will do business with companies that save energy and pollute less, while avoiding companies that waste energy and cause environmental problems.” 75% of respondents felt this statement applied to them, while 23% felt it did not apply to them and 2% were not sure or refused to answer (Stanford University, 2006). In April 2007, in partnership with ABC News and the Washington Post, Stanford University conducted a poll with the specific subject of global warming and asked the following question, “Assuming temperatures are rising, how much do you think can be/could be done to reduce global warming’s effects on people and the environment”? 25% of respondents felt a “great deal” can be done, 38% felt a “good amount” could be done, 23% responded that “just some amount” could be done, 13% stated “hardly anything,” 1% stated “nothing could be done” and 1% had “no opinion.” In this same survey, 20% of Americans felt the problem of global warming was getting better, 63% felt it was getting worse, 9% felt it was staying the same and 8% either stated they did not know or refused to answer (ABC News/Washington Post/Stanford University Poll, 2007).

In their surveys for the years 1975, 1978, 1983, 1985, 1987, 1988, 1989, 2002, and 2006, the University of Chicago’s National Opinion Research Center asked the same question year to year, namely,

We are faced with many problems in this country, none of which can be solved easily or inexpensively. Are we spending too much, too little, or about the right amount on improving and protecting the environment?

	1975	1978	1983	1985	1987	1988	1989	2002	2006
Too little	53%	52%	54%	56%	69%	64%	68%	59%	68%
About right	31%	33%	31%	28%	28%	25%	20%	32%	24%
Too much	10%	10%	8%	8%	7%	5%	5%	7%	6%
Don’t know	6%	5%	6%	7%	5%	6%	6%	2%	2%

Almost 70% of Americans felt the government was spending too little on the environment in 2006. Although down 1% from the 1987 high of 69%, it is a marked difference from the 53% who felt the same in 1975, the era of Earth Day (April 22, 1970), GreenPeace (1971) and social activism. Those who felt the numbers spent were “about right” have not changed significantly in the thirty-year span of this survey, as are the numbers who felt “too much” was being spent on the environment (the numbers sway back and forth.) Significant is the very low percentage who responded they “don’t know.” Since 2002 there has been a 4% drop in those who plead ignorance, a steady decline from the earlier numbers (University of Chicago, 2006). This is important in that it may demonstrate a consumer who is more knowledgeable about environmental issues and therefore more capable of making reasoned decisions. How consumers feel about their environment and what their connections are to the natural world, and therefore the importance they place on protection, are necessary details to understand.

The Recreation Roundtable, a group of recreation industry CEOs, commissioned RoperASW to conduct their survey. Compiled in January, 2004, the *Outdoor Recreation in America 2003: Recreation's Benefits to Society Challenged by Trends* report outlines its research objectives to “measure participation levels in a wide range of outdoor recreation activities, assess the frequency of participation in these outdoor recreation activities, to determine people’s views about outdoor recreation and its relationship with the environment, to investigate people’s interest in and actual involvement in volunteerism on public lands and to monitor changes in attitudes regarding recreation fees at federal sites” (Roper ASW, 2004, p. 2).

The study found that “87% of Americans participated in an outdoor recreational activity over the past twelve months.”(Roper ASW, 2004, p. 4). Of all the activities that participants reported they enjoyed, only driving for pleasure showed a substantial increase. Forty-three percent of Americans drove for pleasure in 2003 while only thirty-six percent drove for pleasure in 2001 (Roper ASW, 2004, p. 4). It is surprising that driving for pleasure is considered an outdoor recreation activity. However, this category has been measured since the inception of similar surveys conducted since 1994. Nonetheless, even with the popularity of driving for pleasure, the survey indicated an overall decline in participation frequency in outdoor recreational activities from 2001 to 2003, “Participation fell by 5 points in participation several times a week and a 7 point drop in participation several times per month” (Roper ASW, 2004, p. 4). The drop in frequency was significant among young adults (18-29 years old) with 30-44 year olds participating most often. The 45 to 59 age group participated three percent more

frequently than the youngest group and two percent less frequently than the 30 to 44 year old age group (Roper ASW, 2004, p. 4).

The RoperASW report (2004, p. 7) points out, "...residents of the Northeast and South are significantly less likely to participate in virtually all forms of outdoor recreation than those in the Midwest and the West...Tennis is the only activity in which participation by Northeast residents exceeds the national average by three points of (sic) more." The report shows a correlation between higher income and higher education with greater levels of participation in outdoor recreation activities. Race, too, plays a role on participation. African Americans "rate of participation was 50% or more below national averages" except for running where the participation was measured as average (Roper ASW, 2004, p. 7).

The report reveals that families with one or more children under the age of seven were found to be more active participants in outdoor recreation activities. In this group, participation was above the national average in activities such as swimming, bike riding, picnicking, tent camping, walking, fishing and camping, bicycling, wild life viewing and horse riding (Roper ASW, 2004, p. 7). The Roper report found, "The public links recreation to overall happiness, family unity, health, improved educational opportunities and deterrence of crime and substance abuse" (RoperASW, 2004, p. 4). The declining numbers of young adults who participate (attributable to computers and other technology) may result in the loss of the benefits of participation. The report points out, however,

The recreation community is in an enviable position because new and significant forces are viewing recreation as a means to achieve important public policy objectives. These forces include federal health interests, under the leadership of the Centers for Disease Control and Prevention, federal tourism and economic development agencies and anti-crime agencies. (RoperASW, 2004, p.18)

Whether this benefit comes from a renewed energy to combat environmental degradation, thus preserving the health of ecosystems and ourselves, is unknown from the report. Positive impact could be gained if incentives and grants were awarded for environmental stewardship. However, the epidemic of obesity we are experiencing in the U.S. with its associated health repercussions, would, in itself, make good policy sense for economic incentives from government to motivate and entice participation. Positive impact could be gained if incentives and grants were awarded for environmental stewardship.

The RoperASW report points out a direct correlation between “recreational participation and environmental attitudes” (RoperASW, 2004, p.19). The report describes five levels of environmental consideration as follows:

True-Blue Greens – environmental leaders and activists.

Greenback Greens – environmental spenders: people willing to pay to improve the environment but with little time to get involved themselves.

Sprouts – middling swing group whose attitudes and behavior can cut both ways. Both pro and anti environment

Grouzers – not much involved in environmental activities for many reasons but mainly because they think others are not doing much either.

Basic Browns – least involved in the environment because they think indifference to the environment is mainstream.

Most significant in the RoperASW report is the growth in Basic Browns from 28% in 2001 to 38% in 2003. The report points out those who are most environmentally concerned (True-Blue Greens and Greenback Greens) reported a higher frequency of outdoor recreation activity. True-Blue Greens reported 75% participation and Greenback Greens reported 82% participation at least once per month, compared to the national average of 57% (Roper ASW, 2004, p. 20). It is these environmental enthusiasts and

those willing to spend more for environmental stewardship who can make a difference in how government and private industry, such as ski resorts, choose to address their global climate change impacts. However, if philanthropic giving is any indicator of the measure of importance placed on environmental concerns, 2006 giving numbers speak volumes.

According to Giving USA: The Numbers (2007), “Total estimated charitable giving in 2006 reached \$295.02 billion. The greatest portion of charitable giving (\$222.89 billion) was given by individual or household donors. This accounts for 75.6 percent of the total estimated giving.” However, “Gifts made to environment/animals organizations totaled an estimated \$6.60 billion, or 2.2 percent of the total” (Giving USA, 2007). This accords charitable giving for environmental concerns the absolute tiniest sliver in the pie chart, smaller than religion, education, human services, health, public-society benefit, arts, culture and humanities, gifts to foundations and gifts to international affairs (Giving USA, 2007).

These numbers would lead us to believe that environmental concerns are not as profound as citizens concern for a host of other societal problems and interests. Individuals in this country donate less to environmental causes than to any other cause globally. Is this a function of poor marketing and fundraising abilities on behalf of environmental organizations or a true indicator of apathy towards environmental issues? The research conducted for this capstone, albeit on a micro scale, in a micro environment, will help to gain a measure of people’s understanding of the environmental impacts associated with global climate change, and how willing individuals are to address these effects with their actions and with their money.

The Natural Resources Defense Council asserts, “The power of consumer choice can help transform an entire industry from environmental bad guy to sustainable business” (NRDC, 2007). The NRDC’s view is that with the support of active consumers, industry can choose to go green. To help in doing so, the Natural Resources Defense Council, a leading not for profit legal defense and advocacy group, has teamed up with the National Ski Area Association in their “Keep Winter Cool” campaign.

The campaign was initiated to “raise visibility and public understanding of global warming and spotlight opportunities that exist right now to start fixing the problem.” (NRDC, 2007). With startling facts such as Aspen and Snowmass resorts experiencing a season that begins 18 days later than it used to and ending 10 days earlier, and ski areas, particularly in the Northeast, needing to increase their snowmaking budgets by as much as 20%, and thus their energy use, the industry is taking stock (NRDC, 2007). Through support of environmental legislation, education and consumer pressure, the ski industry is changing its emphasis from fossil fuel centered energy production to renewable sources and, most importantly, is taking conservation seriously. “...more than 70 resorts from 21 states have endorsed the Call to Action of the U.S. Climate Action Partnership” (NRDC, 2007).

In 2000, the National Ski Areas Association (NSAA) developed the *Sustainable Slopes* campaign geared to motivate the ski industry to address global warming. In 2005, the NSAA updated the guiding document. The literature states the program is facilitated by the NSAA but is an “industry led initiative to raise the collective environmental performance of the ski industry” (Sustainable Slopes, 2005). The 2005 vision statement reiterates the goals of the industry, “To be leaders among outdoor recreation providers by

managing our business in a way that demonstrates our commitment to environmental protection and stewardship while meeting public expectations” (Sustainable Slopes, 2005). The Environmental Mission Statement affirms, “We are committed to improving environmental performance in all aspects of our operations and managing our areas to allow for their continued enjoyment by future generations” (Sustainable Slopes, 2005).

Sustainable Slopes is known as the environmental charter for ski areas, setting out values held by ski area owners, operators and employees. These values include an ethical responsibility of environmental stewardship, the acknowledgment that contact with the natural world leads to a better quality of life, and, by providing a concentrated area in which to enjoy the outdoors, ski areas are limiting impact to “remote, wild areas” (Sustainable Slopes, 2005). Additionally, *Sustainable Slopes* is committed to working with stakeholders and partners such as NRDC to better understand and limit the impacts of ski area operations on the environment.

In addition to its values, *Sustainable Slopes* identifies voluntary principles dealing directly with each aspect of the ski business—planning, operations and outreach, “The principles encourage ski areas to adopt the ‘avoid, minimize, mitigate’ approach to natural resource management” (Sustainable Slopes, 2005). The principles detail particular improvements that can be made to various aspects of the ski business including:

- Planning Design and Construction
- Operations-Water Resources
- Energy Conservation and Clean Energy
- Waste Management
- Fish and Wildlife
- Forest and Vegetative Management
- Wetlands & Riparian Areas
- Air Quality
- Visual Quality
- Transportation

Education and Outreach (Sustainable Slopes, 2005)

The *Sustainable Slopes* charter also encourages the ski industry to “raise policy maker awareness” and to “advocate the national reduction of GHG emissions through legislative, regulatory or voluntary measures” (Sustainable Slopes, 2005). The document goes on to list an “Environmental Code of the Slopes” for the skiing public in addition to a “Keep Winter Cool – What Skiers and Snowboarders Can Do to Help Stop Climate Change” list of suggestions for off-slope actions individuals can take to limit their own carbon footprint (Sustainable Slopes, 2005).

Of the 485 ski resorts listed as operating in the United States in the 2006-2007 season (National Ski Areas Association, 2008), 175 are documented in the *Sustainable Slopes* literature as being “endorsing resorts.” However, because the principles set forth in the documentation are voluntary, the extent of the environmentally conscious actions individual resorts choose to take is up to them.

Vail Mountain Resort has accepted this responsibility and seems to be heading in the right direction when it comes to environmental consciousness. On January 9, 2008 Sarah L. Stewart reported in her article, [Skiing Isn't the Only Industry Fighting Climate Change—It Just Needs a Victory Most](#), the importance the Vail ski resort in Vail, Colorado is placing on the effects of global climate change and environmental stewardship, “‘Everything we do is about the outdoors,’ Vail Resorts CEO Rob Katz stated. ‘If your product is the outdoors, then you really have a special responsibility and a special opportunity to do the right thing for the environment’” (Stewart, 2008). The article points out that although ski resorts are not the biggest polluters and most determining instruments of global climate change (that would be the mining, coal fired

plant and paper industries)(Scorecard, 2008), these businesses are the first to realize the negative effects of warming temperatures. Mr. Katz feels the industry should lead by example acting as a catalyst to the public, "...some feel that the ski industry's greatest potential to affect climate change lies not in their operations, but in their activism" (Stewart, 2008). The article continues by quoting Matt Scherr, executive director of the Eagle Valley Alliance for Sustainability, "By raising environmental awareness, the ski industry also has the ability to reach hundreds of thousands of visitors and perhaps inspire them to make greener choices. If they create a greater sensibility, people will come to those realizations (to be more green) on their own" (Stewart, 2008). Ms Stewart's article begs the question of whether this environmental education is simply preaching to the choir, an already conscious population, or influencing those who enjoy skiing but would otherwise not think twice about throwing away a recyclable plastic bottle or driving a gas guzzling sport utility vehicle. The results of ski area public environmental education may be impossible to measure but it is a tangible action, easy to administer, and may actually make a difference.

Ski resorts in Vermont also recognize the need for some type of global warming action. After the warm 2006/2007 season, most ski areas in Vermont understand global climate change is currently, and will continue to negatively affect their businesses. Unlike western ski areas in the United States which could potentially move to higher elevations in their quest for snow, resort owners in the Northeast have nowhere to go. Most area owners and operators are concerned and are assessing and addressing their environmental impacts.

There are several ski areas in Vermont implementing conservation techniques and other carbon reducing activities. The Snow Bowl at Middlebury College is purchasing 100% of its energy use from renewable resources. This is in the form of carbon offsets that were calculated originally in an environmental economics class then brought to NativeEnergy for refinement. NativeEnergy is a “privately-run renewable energy company that helps reduce CO2 emissions by funding Native American owned and operated wind turbine farms and family-owned farm methane projects” (Totten, 2007) The carbon offset numbers at Snow Bowl take into account the amount of carbon produced by “diesel, oil, electric, gas, propane, and biodiesel usage, as well as skier transportation to and from the ski area. The ski teams at the Snow Bowl also calculated how much carbon they used to power and heat training rooms, coaches’ offices, and hotel rooms when they travel” (Totten, 2007). Other Vermont resorts are also finding ways to curb their carbon footprint.

Near the Canadian border, Jay Peak Vermont buys 80% of its energy from Hydro Quebec and has bought new snow making equipment that uses 1/10 of the air previously needed with the old equipment. This translates into energy savings, cost savings and resulting carbon reductions. Other ways ski areas are addressing the carbon problem is by offering carbon offset tickets to visitors to the ski area (Ski Vermont, 2008).

Through its “SkiCool” program, Smugglers’ Notch in Vermont offers carbon offset tickets for sale starting at 50 cents and uses the money to purchase renewable energy from NativeEnergy. This resort has addressed global warming concerns using other techniques as well. Energy efficiency in new buildings, recycling and composting

and a no-idling policy contribute to their endeavor to be environmentally responsible (Smuggler's Notch, 2008).

Not to be left behind, Okemo Mountain Resort's owners have offset the carbon loading of Okemo and two additional winter resorts they own in New Hampshire and in Colorado, by purchasing 100% of their energy needs from renewable sources. Stratton Mountain is doing the same. The mindfulness of ski industry environmental impacts is positive for the environment. Being green can also be a powerful marketing tool (Sorrentino, 2006).

The American Strategic Management Institute is offering a conference based on green marketing to its members and the public. The conference will take place in Arlington, Virginia from April 21 -23, 2008. The agenda for the conference is diverse and includes an opening keynote address titled, "The Convenient Truth: Gaining a Competitive Advantage through Green Marketing." Additional lectures include "Developing a Strategic Plan for Green Marketing, Creating a Green Marketing Campaign, Engaging Employees and Generating a Corporate Culture Responsive to Conservation, Driving Sales through Green Marketing, Measuring the ROI (Return on Investment) of Going Green: A Cost-Benefit Analysis, and Aligning Your Brand with Socially Responsible Causes" (ASMI, 2008).

The conference's outline fits solidly into my research as it exhibits an interest in this relatively new market; an interest worth investing ASMI dollars in. The conference will help build on getting green marketing into the consciousness of corporations. The agenda illustrates a market that is demanding environmental stewardship from corporations. The manner in which corporations respond is varied and may simply be in

investment in environmental not for profits. Unfortunately, “Corporate giving declined an estimated 10.5 percent in 2006, adjusted for inflation” (Giving USA, 2007). If corporations decide to reinvigorate their environmental donations, this could be a strong influence on the capabilities of environmental groups to make a difference in the environment through advocacy, education and legal intervention. However, corporations such as Google which has chosen to invest in tangible greening technologies such as the photovoltaic panels on the roof of their corporate headquarters may create an even more potent relationship with a green consumer market. The ASMI conference explores these different routes and brings greening education to a normally blue collar world.

A strong supporter of what being green means to industry is Jacquelyn Ottman, a New York City-based consultant who has been helping companies with “eco innovation” and “green marketing” for twenty years. According to the website, “J. Ottman Consulting, Inc. is a marketing, consulting and new products firm with the mission of helping businesses, government agencies, and not-for-profit groups meet consumer needs more sustainably” (J. Ottman Consulting, 2008). Their client list is varied and includes Clairol, Colgate-Palmolive, DuPont, GE Corporate, Green Mountain Energy Resources, IBM, Kraft General Foods, Nike, Pitney-Bowes, Rocky Mountain Institute, Rodale Press, Toyota, U.S. EPA, Vermont Sustainable Jobs Fund, Young & Rubicam and many others.

This firm asserts there is a green products movement driven by babyboomers who use their influence and resources to support sustainable environmental practices and products and support politicians who place importance on environmental issues (J. Ottman, Green Marketing, 1998, p. 2). J. Ottman Consulting, Inc.’s logo, *Profit for Good*, underscores their point of view and is in line with the triple bottom line touted by

companies such as Patagonia Inc., Paul Newman, and Toms of Maine. They maintain that environmentally sustainable businesses are interested not only in making a profit but also in being a positive advocate for society and for the environment.

Doing Well by Doing Good is the tag-line of Patagonia, Inc., one of the case studies in Ms Ottman's book. Patagonia is an outdoor and sports clothing company. Like other sportswear companies, they sell through the internet and in individual stores across the United States, Europe and Japan. Unlike many other sportswear companies, since its inception in the 1960s, Patagonia has made environmentalism a major component of its existence. From recycled fiber jackets to using renewable and recycled building materials in their stores to "pledging 1 percent of its sales or 10 percent of pre-tax profits, whichever is greater, to groups actively working in such areas as biodiversity, old-growth forests, environmentally preferable methods of resource extraction, alternative energy, water and social activism and environmental education" (J. Ottman, *Green Marketing*, 1998, p. 80) Patagonia, Inc. embodies the sustainable equation of triple bottom line capitalism. Their success is noteworthy. Not only have they contributed "\$8 million to hundreds of organizations" (J. Ottman, *Green Marketing*, 1998, p. 80), they have "...amassed \$150 million in annual sales throughout the U.S., Japan and Europe" (J. Ottman, *Green Marketing*, 1998, p. 80). J. Ottman Consulting, Inc. highlights Patagonia as an example of a sustainable company with enduring consumer support because of the sustainable products they provide in a sustainable environment. Patagonia is supported by a demographic that cares about environmental issues and has the money to back them up.

According to the J. Ottman book, quoting 1996 survey results from RoperASW, there is a "15 percent core of educated, upscale individuals who say they are willing to

pay a premium or forego certain conveniences to ensure a cleaner environment.” I would imagine by 2008 that number should be substantially higher. My research will help in understanding current sentiment. As well, my research will help to modernize the results of a 1998 poll by Peter D. Hart Associates, quoted in *Green Marketing: Opportunity for Innovation* (1998, p. 89) regarding the feelings of voters in favor of environmental legislation,

“more voters than not believe current laws and regulations do not go far enough and are prepared to vote for still more environmental laws if necessary. Such attitudes predominate-particularly among women, voters age 18 to 34, minorities, and urban dwellers-despite the greater concern they have about such issues as the economy, jobs, taxes and the cost of living.”

The J. Ottman book stresses the necessity of government and business working together to arrive at environmentally responsible/economically responsible solutions, “The voting public, while not giving up on the need for continued regulation of industry, desires market-based solutions to environmental problems. (J. Ottman, *Green Marketing*, 1998, p. 92).

Vermont has recognized the power of government and business working cooperatively to come to sustainable environmental solutions. There are several incentives presented through various programs that businesses can apply to in order to help them serve the environment while serving their customers. For example, as part of the Miscellaneous Tax Reduction Act of 1999, Vermont provides a sales tax exemption on “residential and commercial renewable-energy systems not connected to the grid. In addition, solar hot water systems are eligible for exemption” (H.0548, 1999, 2002). This exemption also applies to wind, biomass, anaerobic digestion, renewable and other fuel

cells using renewable fuels technologies (Sales Tax Exemption, 2002). Additionally, under Act 69 of 2003, a state rebate program was implemented to provide rebates to the commercial, residential, schools, local government, state government, multi-family residential, low-income residential and agricultural sectors for photovoltaic energy production at \$1.75/watt for residential and businesses and \$3.50/watt for multi-family and low-income properties. Solar water heaters are provided a rebate of \$1.75 per 100 Btu/day and wind generation at \$4.50/watt for schools, farms or government entities or \$2.50/watt for individuals or businesses. The rebate amount is higher if the equipment is made in Vermont. The Vermont Energy Investment Corporation carries out the program (State Rebate Program, 2003).

Administered by the Vermont Department of Public Service, the Clean Energy Development Fund,

Is authorized to support renewable-energy resources, CHP (combined heat and power) systems and cost-effective energy-efficiency resources. Eligible renewable-energy systems include photovoltaics; solar-thermal; wind; geothermal heat pumps; farm, landfill and sewer methane recovery; low-emission, advanced biomass; and CHP systems using biomass fuels such as wood, agricultural or food wastes, energy crops and organic refuse-derived waste. (Municipal solid waste is not eligible.) CHP systems must have a design system efficiency of at least 65% and must meet Vermont's air-quality standards in order to qualify" (Public Benefits Fund 2006).

The \$6 million to \$7.2 million funding for this program is provided by Entergy which owns Vermont Yankee nuclear power plant. Entergy will provide this funding until at least 2012 when their operating license expires. The fund is used to grant low interest loans (Public Benefits Fund, 2006).

In addition to government providing financial incentives for alternative energy sources, Vermont also has legislation setting standards on what corporations, such as those in the ski industry, can do when turning a profit has the possibility of damaging the environment. Act 250 is such a piece of legislation. This land use and development law was passed in 1970 and attempts to, “protect and conserve the lands and the environment of the state and to insure that these lands and environment are devoted to uses which are not detrimental to the public welfare and interests” (Vermont Heritage Network, n.d.).

Act 250 comes into play in the following situations:

- Construction for a commercial or industrial purpose on more than one acre of land (or on more than 10 acres of land if the municipality has permanent zoning and subdivision bylaws);
- Construction of more than 10 housing units within a radius of 5 miles;
- Subdivision of land into 10 or more lots;
- Construction of a road (incidental to the sale or lease of land) if the road provides access to more than five lots or is longer than 800 feet;
- Construction by the state or local government if the project involves more than 10 acres;
- Substantial changes or additions to existing developments;
- Construction above 2,500 feet in elevation. (Vermont Heritage Network, n.d.)

Act 250 has ten criteria upon which environmental considerations are evaluated.

The criteria include:

1. Will not result in undue water pollution or air pollution.
2. Will have a sufficient water supply.
3. Will not cause an unreasonable burden on an existing water supply.
4. Will not cause unreasonable soil erosion or runoff.
5. Will not cause unreasonable traffic congestion.
6. Will not cause an unreasonable burden on educational services.
7. Will not cause an unreasonable burden on other municipal services (fire, police, water, roads).
8. Will not have an undue adverse effect on scenic beauty, aesthetics, historic sites, or rare and irreplaceable natural areas; and will not destroy necessary wildlife habitat or any endangered species.

9. Will conform to the capability and development plan, including, for instance, limiting development on primary agricultural soils, using the best available technology for energy efficiency, and using cluster planning in rural growth areas.
10. Will conform to local and regional plans or capital programs. (Vermont Heritage Network, n.d.)

Act 250 permits and encourages affected stakeholders to participate in the process. Stakeholders may include neighbors, non-governmental organizations, and anyone else who can demonstrate they will be affected by the development proposal. As related to ski areas, Act 250 ensures a process where environmental impacts will be scrutinized and limited in every way possible. A current example of a ski area expansion under careful study is the Killington Mountain Resort owned by the American Skiing Company. Killington wishes to expand their operations; a multitude of stakeholders are making sure they do so with care (Isham/Polubinski, 2002, p. 5).

The research objective of this study was to understand the willingness of the public to reduce their environmental impacts. Specifically, this study ascertained the desire of vacationers at ski resorts in the state of Vermont to address environmental impacts through their decisions regarding where, and how, they choose to spend their leisure-time dollars. The study addressed the following questions:

1. Are consumers supportive of environmental “greening” and are they willing to pay more for environmental stewardship?
2. Are those who choose to visit resorts willing to pay more for a resort that has proven to be environmentally sustainable?
3. Are mountain resorts that tout themselves as “green” really green or are they simply “green washing” as a marketing tool?

Since the policies of the State of Vermont government are an integral part of this research, an understanding of current environmental laws and policies as they relate to mountain resorts in the state was imperative. In order to gain this understanding, a web search using legal (Lexis/Nexus) and other databases was conducted.

Face-to-face interviews were conducted with the directors of various “green” programs at a number of ski/resort areas. These interviews allowed for an understanding of what individual policies are in place for the individual ski areas that address the negative environmental effects of running a resort business. The interviews were used to

find out what the perceptions of the ski operators are regarding the public's willingness to pay for environmental stewardship. The interviews were also used to find out whether the ski area's greening experiences have been an impetus to forming new environmental policies in their local and/or state governments specifically concerning ski areas.

The areas contacted were Okemo Mountain Resort in Vermont (Mike Doran, mdoran@okemo.com, 802-228-1968), Magic Mountain Resort in Vermont (Matt Lillard, mlillard@magicmtnresort.com, 1-800-Stratton), Bromley Mountain Resort in Vermont (John Cueman, jcueman@bromley.com, 802-824-5522) and Jiminy Peak Mountain Resort in Massachusetts (Jim Van Dyke, jvandyke@jiminy.com, 413-738-5500 x 3700).

In order to be able to understand how important environmental impacts are to those who visit ski areas, patrons to a recreational area were asked to complete a paper and pencil questionnaire. The survey was conducted at a ski/resort mountain during the day in mid-winter. The questionnaire was given prior to any recreation on the mountain such as skiing, snowshoeing or hiking so as to limit bias based on a "really good day" or a "really bad day" on the mountain. This took a number of days in order to obtain a sufficient number of responses. The questionnaire consisted of approximately sixteen questions and was distributed randomly to adults who appeared to be over the age of eighteen. The researcher introduced herself as a graduate school student conducting a study and asked the individual to take a few moments to sit and complete the questionnaire. The researcher moved away from the person in order to give them a sense of privacy. The questionnaire-taker did not have to identify him or herself. The only identifier was the question of age which was an important aspect in understanding the results of this research.

The questionnaire was conducted in the public space of the building. Others may or may not have seen the transaction and this may or may not have given them encouragement to complete the questionnaire. Limitations of the questionnaire were the amount of noise and other distractions there was at the time, whether the person filled in the questionnaire in a thoughtful and meaningful way which is largely dependent upon whether the person was in a particular hurry or not. Additionally, question ambiguity or misunderstanding was a possibility.

Additional surveys were conducted via the internet, posted on [surveymonkey.com](https://www.surveymonkey.com), and given to employees of an active wear company located in New York City. The purpose of these surveys was to gain an understanding of the environmental importance placed on vacation destinations by those who have not specifically chosen to spend their leisure time in Vermont, and more specifically at a ski resort.

The data gathered from resort operators was analyzed using narrative and pictorial forms. The questionnaires were addressed in a similar manner to understand the preferences vacationers have for spending their leisure dollars at a resort in Vermont versus a resort elsewhere, as well as their preference for an environmentally friendly resort versus a resort that practices business as usual. If the outcomes of the surveys showed a significant preference for environmentally responsible resort areas, the data may be made available to resort operators in order to influence their future decision making. Environmental prioritization from tourists' survey results may also be an important piece of information to bring to policymakers.

Information for this project was gathered using both surveys and interviews. Three surveys were offered to various groups, three interviews were conducted.

The first survey was through an internet tool named SurveyMonkey. The survey was developed online and submitted to a portion of the researcher's e-mail list (82 names). Respondents were asked to answer the questions honestly and were assured of their anonymity. Sixty-four surveys were returned. The following results were noted:

A majority of respondents (41%) were in the 36-50 age range, with 58.1% reporting they had completed graduate school.

Almost all the respondents (89.1%) said they had taken a vacation in the last year and most had gone to a warm weather destination (73.7%), staying on average from 4 to 7 days. Over 75% of respondents stated they did not consider the environmental impacts of their destination resort. Of the almost 25% who responded that this was a consideration, thirteen chose to share their concerns as follows:

- The possibility of that region being destroyed by development, the hotel's light impact on its setting.
- We visited a friend building a new hotel in Greece and went to encourage and lobby him to implement sustainable considerations.
- We don't go to a "resort." We rent a friend's house near a beach in Maine for 2 weeks. Our only real footprint is in driving there and back. We don't fly, and we spend a lot more time traveling on foot while we're there than we do here.
- Clean water.
- The time of year (summer) in Cape Cod, MA.
- Where they go for their energy.
- Pesticides used on the property. Cleaning products used in the unit.
- If I didn't consider this, it wouldn't be a fun vacation!
- The resort and general attitude of people visiting were those that cared about the environment they were in and make conscious decisions not to damage it. Resort impact on the island. Environmental programs in place at the resort, recycling facilities in use.

- We favor Maine in large measure because the Mainers are extremely environmentally conscious, work hard to preserve and protect open space and are simply lovely people.
- Were they sustainable.

If the environmental impacts were readily disclosed, 84% of respondents stated that would make a difference in the decision of where to spend their recreational dollars and 70.5% said they would spend more money to go to an environmentally responsible area. As to how much more the respondents would be willing to spend, a majority (42.5%) felt 10% more was sufficient, while 32.5% felt 5% more was enough and 25% felt up to 20% more would be acceptable for a mindful resort.

In terms of dollars, a majority of those who responded indicated they would be willing to offset the carbon emissions of the transportation they took to reach their destination. Ten dollars was deemed reasonable by most with as little as one dollar described as being enough for carbon offsets. However, there was also a willingness to spend as high as fifty dollars to address this issue. No matter where they fell in terms of actual dollars, a full 75% of respondents stated they would be willing to pay something to help offset their travel emissions.

When asked the question of whether they feel global climate change is a threat to the United States, 91.9% of respondents felt it was and 82.3% would be in favor of laws and policies mandating resorts and other vacation destinations in the United States to adopt environmental practices. The responses were more mixed, however, when asked if the individuals were willing to pay more taxes, such as a carbon reduction tax, to help offset the costs of reducing negative environmental factors in vacation areas. 58.1% stated they would be in favor of these taxes, however, 41.9% stated they would not.

This same survey was given to a group of employees in a New York City fashion center design and sales office. Seventeen surveys were distributed by the office manager, seventeen surveys were returned.

Similar to the internet survey, most respondents were in the 36 to 50 year age range (52.9%) with 41.2% in the 19-35 age range with one person falling within the 51-70 age range. All except one respondent had finished college, none had graduate degrees. All but three of those surveyed had taken a vacation in the last year with a predominant duration of 4 to 7 days (70.1%) with one lasting less than 4 days and one person's vacation lasting a total of 15 days. Like the survey above, most people in this office prefer a warm weather vacation over a cold weather vacation—70.1% versus 11.6%.

Ninety-nine percent of these respondents indicated they made no environmental consideration when they chose their vacation destination. This is somewhat dissimilar to the above survey, where 25% of the respondents did consider the environmental impacts of their destination resort. Additionally, 36% of the office respondents indicated their decision would not be swayed if environmental impacts were disclosed, 54% said they would. The first survey indicates a much wider gap of those who would be swayed (84%) versus those who would not (16%). However, the numbers are very similar when it comes to a choice to pay more to go to a resort or other area that is environmentally responsible. In both surveys, approximately 73% of respondents indicated they would spend more money. The first survey showed 10% as a favorable amount, while the second survey showed a predominant acceptance of a 5% premium for environmental stewardship.

When asked whether they would be willing to offset their carbon footprint for the transportation taken to reach the resort, 59% of respondents in the second survey said they would, with a majority of this group, 59%, stating \$10 as a reasonable amount, one person willing to spend \$25 and one person willing to spend an extra \$50 to address their transportation impacts. Conversely, 41% said they would not be willing to help offset their travel emissions. This is in contrast to the 75% of internet respondents who said they would pay for carbon credits.

The question as to whether global climate change is a threat to the United States elicited a 94.1% response affirming this, similar to the internet survey. Also similar to the internet survey, 82.35% of respondents would be in favor of laws and policies mandating resorts and other vacation destinations in the United States to adopt environmental practices. However, more employees in the fashion office (72%) were willing to pay a specific tax to help offset the costs of reducing negative environmental factors in vacation areas than those who had responded on the internet survey (58.1%).

The final survey was distributed at a ski mountain during the day when skiers and boarders were preparing to go out on the slopes. The survey was handed out and respondents were asked to complete it, fold it and deposit it into a slotted box set to the side of the front cashier's desk. Twenty surveys were distributed, fourteen were completed and inserted into the slotted box, four were found unanswered on tables and two were missing altogether.

The questions varied slightly from the questions posed to the aforementioned survey respondents. This survey included specific questions for patrons of ski/snowboard areas. However, many questions were the same as those posed in the first two surveys.

Most respondents to the ski/snowboard area survey were in the 19-35 year age range (52%) with a close number in the 36-50 year age range (48%). Approximately equal numbers of respondents completed college as did those who completed school on the graduate level. Most (80%) were at the resort for a vacation, two worked at the area and one respondent indicated the reason for attendance was because of a home in the area. Equal numbers of respondents had been patrons at this specific area for only one day as those who had been to this area for over five days this season.

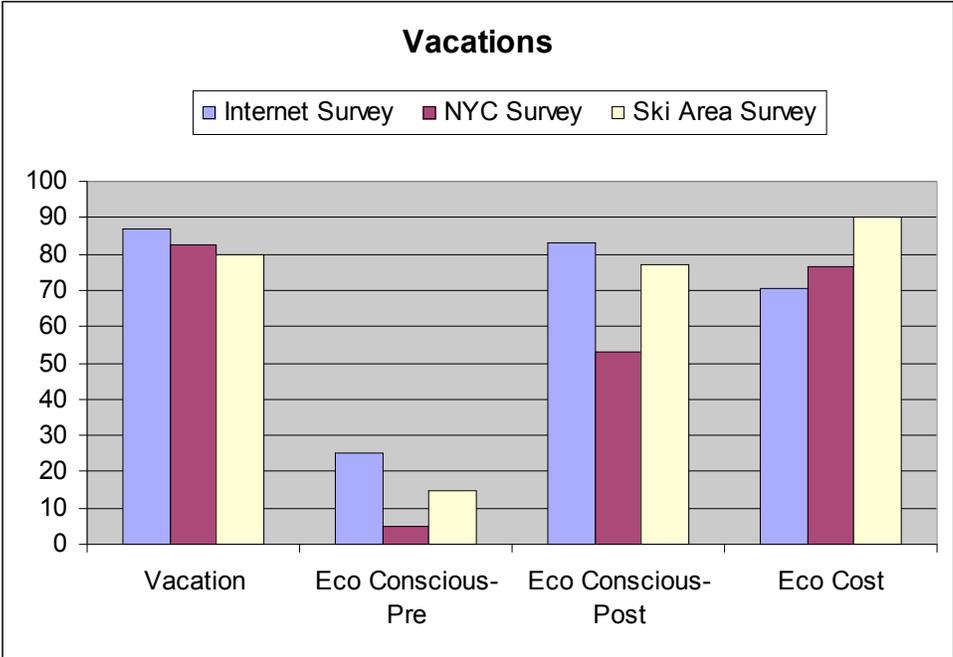
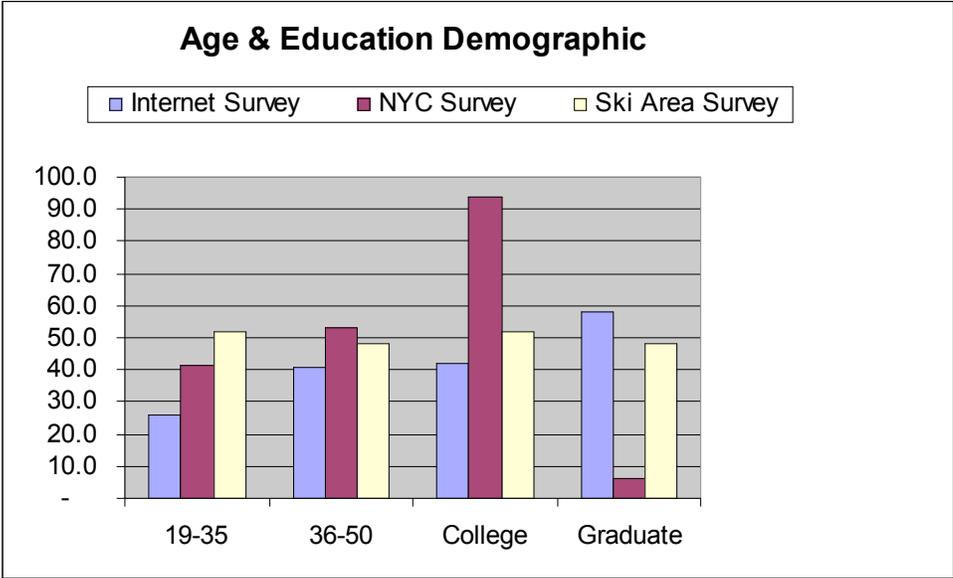
Multiple reasons for attendance at this resort were indicated including the reputation of the mountain (48% felt this was a factor in bringing them to this area), the terrain (48%), had been to the mountain before (48%), the price of the lift ticket (52%) and convenience (42%). Two respondents also marked “other” as a reason for attendance but declined to indicate what those factors were.

Similar to the previous two surveys, a very high percentage of respondents (99%) felt global warming is a threat to the Vermont ski/snowboard industry. Also similar to the above two surveys, a predominance of respondents had not considered the environmental impacts of their destination resort. The one respondent who did make this a consideration indicated that proximity was a factor. Most (99%) indicated they would make environmental stewardship a factor in future decisions of where to spend their cold weather sport dollars and those same respondents stated they would prefer to attend an area that was more environmentally responsible over an area that was not and felt ski/snowboard areas should be doing more to make sure they minimize their environmental impacts.

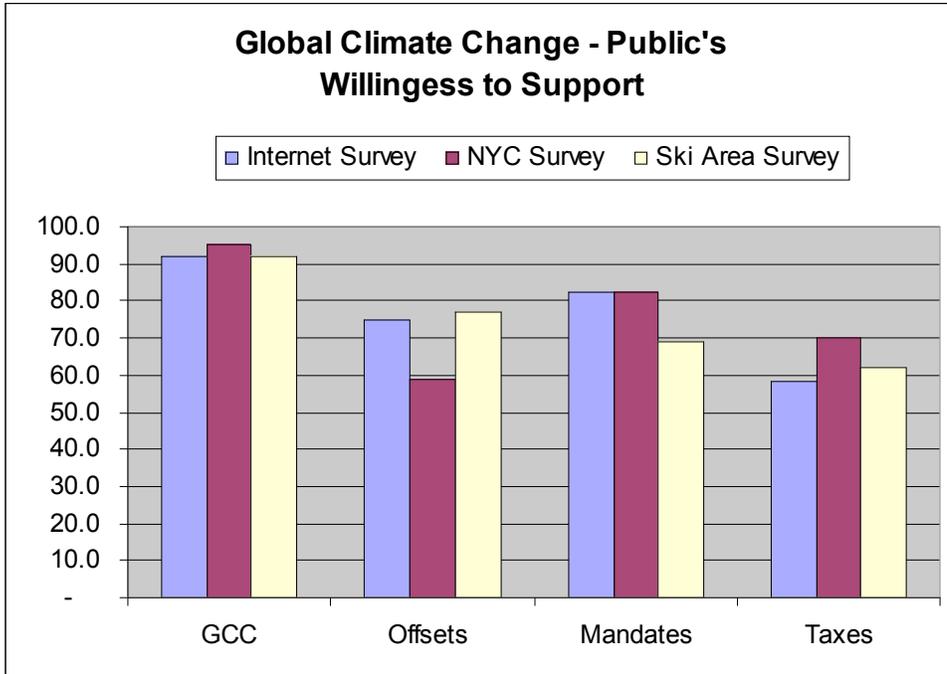
However, consensus was not as prevalent when it came to government policies mandating ski resorts to adopt environmental practices. In the previous two surveys, upwards of 80% of respondents favored government mandates. This particular survey showed a less enthusiastic response to government policies. Only 68% of skiers/snowboarders who answered this survey were in favor of government intervening to mandate environmental stewardship. As well, their willingness to pay a specific tax to help offset costs of reducing negative environmental factors in resort areas fell in the middle of the three surveys. Survey number one indicated a 58.1% willingness to pay a greater tax, survey number two showed a 72% willingness, and this survey showed a mid-point of 62% of those who were willing to pay an offsetting tax. However, most were willing to spend money to directly help the resort offset the costs of stewardship. A full 90% stated they would pay for an increased lift ticket price if the resort were to adopt environmental practices. The most accepted increase was a 5% increase with 10% also falling into the acceptable range, although with less support.

Finally, respondents were found to be supportive of paying to offset the carbon emissions in the transportation they took to get to the ski/snowboard area. A full 98% indicated they would be willing to buy a carbon credit coupon or contribute to some other form of tradeoff. Most were willing to spend at least \$5 to do this.

Following is a graphic compilation of the responses from all three surveys. Each graph depicts a particular grouping of survey questions.



Eco Conscious Pre = Ever thought about environmental impact of vacation resort?
 Eco Conscious Post = If disclosed, would you think about the impacts?
 Eco Cost = Would you be willing to pay more for an environmentally sustainable resort?



GCC = Global Climate Change
 Offsets = Willing to pay to offset their own carbon footprint
 Mandates = Would support government policies and/or standards
 Taxes = personal or commercial

In addition to distributing and collecting surveys, I conducted interviews with the principals of three separate mountain resorts. A fourth interview was intended but the interviewee declined stating, “I’m not totally convinced that carbon is the culprit. I’ve done a lot of reading and I think there are a lot of other reasons for the warming that is happening.” From my observation of this ski/snowboard resort on-line and in person, there are no environmentally mindful programs currently in place.

However, three resort principals did agree to be interviewed and their responses follow.

The first interview was conducted with Mr. Mike Doran, Permit and Compliance Director at Okemo Mountain Resort. Mr. Doran is also in charge of environmental initiatives at Okemo. The interview commenced at 9 a.m. and lasted approximately 55 minutes.

The second interview was conducted with Mr. Jim Van Dyke at Jiminy Peak Mountain Resort in Massachusetts. Mr. Van Dyke is the Vice President of Environmental Sustainability at the mountain. This interview was conducted through e-mail because of the time constraints Mr. Van Dyke is experiencing during a very busy season at Jiminy. Mr. Van Dyke was very cooperative and answered all original and follow up questions readily, inviting me to call at will with further questions or concerns.

The third interview was held at Magic Mountain Resort. The person interviewed was Mr. Matt Lillard, Director of Marketing and Operations at Magic Mountain. The interview commenced at 11:30 a.m. and lasted approximately 65 minutes.

I have noted each question and marked the answers following each question. The answers for Okemo are marked with a preceding “O”, Jiminy Peak with a preceding “J” and Magic Mountain with a preceding “M.”

1. Have you been mandated by the State of Vermont to address global climate change concerns?

“O” Not directly. We must comply with air pollution controls. Our diesel compressors are leased yearly so we have the most efficient, up to date compressors possible. We will be going onto The Climate Registry, a national organization, to report emissions. This is voluntary.

“J” No and not by Massachusetts either.

*Jiminy Peak is located in Massachusetts, on the Vermont border. Their input into this research was important because they have a long standing reputation of environmental stewardship.

“M” Magic Mountain has not been mandated by the State of Vermont to address global climate change concerns.

2. Do you believe global warming is a threat to the cold weather recreation industry?

“O” Personally I believe it although have not yet seen the effects. Tim and Diane Mueller (the owners of Okemo Resort, Mount Sunapee in NH and Crested Butte in Colorado) are committed to environmentalism. Okemo has partnered with Efficiency Vermont for their input and recommendations in new buildings and what can be done to upgrade older buildings. Efficiency Vermont has provided oversight and financial incentives.

“J” A rose by any other name – yes a threat.

“M” Yes, it is a threat.

3. Do you feel it is the responsibility of ski and snowboard resorts to avoid, minimize and mitigate greenhouse gas emissions?

“O” Business and environmentalism – being environmentally aware has become not a choice. Businesses in this industry will be affected by global climate change.

“J” It is all our responsibilities to do what we can.

“M” Yes, it is the responsibility of snow resorts to do something about it.

4. Does your resort have an environmental mission? If so, what is it?

“O” Yes. A copy was provided.

“J” Yes, a corporate core value. Forever-Green Devoted to environmental stewardship. Promoting sensitive care of the resort’s ecosystem and be a leader in environmental sustainability especially as it pertains to creation and conservation of energy.

“M” Magic Mountain does not currently have an environmental mission statement but is working on it and should have it finalized by this summer.

5. What types of programs does this resort have in place to reduce environmental impacts?

“O” Okemo has a newly formed environmental committee consisting of 10 to 20 people including Diane Mueller, the Director of Facilities, and a representative of the Homeowner’s Association. The committee was formed to brainstorm ideas, put forth the recycling effort, as well as to consider the best way to position the facilities for recycling. This will include placement of 100 bins and the staff necessary to monitor those bins.

Also, a new program to recycle the waste vegetable oil from the on-site food services will begin this summer. This will create approximately 2000 gallons of biodiesel

per year. Okemo will eventually replace all their pick up trucks with diesel ATVs that will be using the biodiesel for fuel.

“J” Jiminy Peak Resort has a program for reduction of solid waste, reduction in the use of domestic water, maximization of the use of snowmaking water while reducing electrical energy use. Also, there is a focus on reduction and conservation of electrical energy and the generation of electricity using our 1.5 MW wind turbine.

“M” Magic Mountain has a recycling program currently in place for metal, plastics, glass and paper. We also reuse waste oil from our vehicles to be used in the oil burner to heat the garage. This waste oil then stays out of the waste stream. Additionally, we offer Car Pool Wednesdays where an entire carload of people can ski for \$75 on non-holiday Wednesdays. This acts as an incentive to get people to think about their transportation.

6. Does the resort:

- Buy or generate renewable energy;**
- Have a program for energy conservation;**
- Have a program for water conservation and quality;**
- Have a reduce, reuse, and recycle program;**
- Do its own composting of kitchen waste;**
- Operate hybrid and/or four stroke vehicles;**
- Have environmental education programs for staff and/or the public;**
- Use up to date efficient snowmaking technology.**

“O” The Muellers are in the second year of a three year contract to buy all their energy for all three of their resorts from renewable sources.

Energy conservation is done through the use of CFL light bulbs and replacing all fixtures with super AT12s. The cost to replace the fixtures in the base lodge alone was \$16,000.00.

There is a designated Water Operator who is in charge of seven different water systems. There is a ground water aquifer under the entire property as it is in the Black River Valley. We continuously monitor the brooks that run through the property and have so far found no negative impacts from trail and/or road runoff. They all have storm water sediment ponds for runoff.

We have a recycling program that is starting to get off the ground. This program was insisted upon by the homeowners.

We do not currently compost kitchen waste.

We do not operate any hybrid vehicles but will be switching to the biodiesel ATVs.

There is no formal environmental education program. However, an environmental ethics program is being formulated for managers and some presentations have been made. We will be having a “Sustainable Slopes Day” where education will occur, ski tours will be offered as well as environmental movies. There will also be discounted tickets for those who carpool. Additionally, we have an environmental education intern who has held numerous snowshoe hikes which have been very well attended.

The snowmaking technology is constantly being updated. In fact, our facility is used by companies to test the equipment since Okemo has such a good snowmaking reputation. We have numerous HKD snowmaking guns, in addition to the new SV10s

which are mobile snowmaking guns and have been very well received. Although Okemo Resort has added 60% more terrain in recent years, we continue to use the same amount of compressed air as prior to the increase in terrain.

“J” Jiminy generates renewable energy with our wind turbine. We have an energy conservation program as well as a water quality and conservation program currently in place. We also reduce, reuse and recycle wherever possible.

As far as composting kitchen waste, we have a very small program where restaurant employees use the kitchen waste to compost for their own gardens.

We do not currently operate hybrid vehicles but it is in the works. We do have environmental programs for both the staff and the public. As well, we try to use the most up to date, efficient snowmaking technology possible.

“M” We do not buy or generate renewable energy although we would like to. Hopefully, when Magic Mountain is able to become more financially stable, we will be able to do so.

We have a variable frequency on the snowmaking pumps for energy efficiency. We use only the energy we need during particular weather conditions.

We maintain a sizeable wetland around our snowmaking pond to address water quality issues.

We have a recycling program for plastics, metal, glass and paper and we use only recycled paper in the office which is then used for scrap or is recycled. We also only use

recycled paper in our brochures and on our trail maps. We hope to be able to use soy dyes for the next trail map printing.

We do not compost kitchen waste. We do not operate hybrids. We do not currently have environmental education programs for the staff or the public.

As for snowmaking, prior to the new operation team stepping in, this mountain had a history of a lack of maintenance of its snowmaking equipment. Going forward, the mountain is planning to perform maintenance and replacement work on all its piping and motors which will make the snowmaking a lot more efficient. Also, the mountain has recently invested in HKD snowmaking guns which are much more efficient than the older ones that were in use.

7. What is the environmental concern you feel is the most urgent to address at this resort?

“O” Three Concerns: 1. Electricity Usage – looking to passive solar to heat the pools
2. Fuel Usage
3. Solid Waste – addressing this with the new recycling program.

“J” No answer.

“M” The efficiency of the snowmaking system is the number one concern that needs to be addressed at this resort. Also, maintenance on the chair lifts would help in their efficiency. However, they are already more efficient as fixed grip lifts than a high speed, detachable chairlift would be.

8. Do visitors to the mountain support your environmental efforts? ie. recycling, adhering to “no ski zones” etc.

“O” Visitors to the mountain do support the environmental efforts. In fact, the mountain has had trouble keeping up with emptying the recycling bins.

“J” Yes. In fact, when surveyed 27% said their decision to come to Jiminy was caused by our environmental programs.

“M” Visitors to the mountain do support our environmental efforts and are very happy to see that we have a recycling program.

9. Have you had to increase ticket prices as a direct result of your mitigation efforts?

“O” No.

“J” No.

“M” No.

10. If so, has this increase affected your sales of lift tickets?

“O” n/a

“J” n/a

“M” n/a

11. Do you sell “cool tags” or some other type of carbon offsetting tool?

Example: “When you buy a Cool Tag, Clif Bar invests \$2 in NativeEnergy’s Windbuilder’s program. This money goes to help the Rosebud Sioux Tribe build the St. Francis Wind Farm in South Dakota. Wind farms deliver clean,

renewable energy to the grid – replacing energy from fossil-fuel burning, C02-creating power plants.” *Clif Bar & Co’s, Start Global Cooling Campaign*

“O” No.

“J” No, but that is a good idea. How would we start?

“M” We do not yet sell cool tags. However, we will be looking into this during the summer.

12. If so, have they been popular?

“O” n/a

“J” n/a

“M” n/a

13. Do you have evidence that the public is demanding environmental stewardship from the vacation places where they choose to spend their money?

“O” Was not asked this question.

“J” As stated in number seven above, when surveyed, 27% said their decision to come to Jiminy was caused by our environmental programs.

“M” The public makes an effort to mention they like the recycling they see. I believe the public would support a genuine effort to decrease our impacts.

14. Would you support industry-wide mandates that would address the avoidance, minimization or mitigation of global warming practices?

“O” Mixed feelings. Government regulations can be debilitating. The ski industry is progressive and most areas are making an effort to limit their footprint. In fact, it is essential for their public image to have an environmental program.

“J” No, I don’t think so. The use of sustainable practices used by the National Ski Areas Association as a voluntary program works very well. Ski areas are not the cause. Mandates would be better used in other arenas, CO₂ emissions and the like.

“M” I would support industry-wide mandates with the understanding that some resorts, for financial reasons, may not be able to meet standards as quickly as others but, as long as they are working towards them, they will not be penalized. I believe standards are good.

15. Would you be supportive of an increase in taxes in order to fund alternative energy solutions in the State of Vermont?

“O” Taxes are already going to fund programs such as Efficiency Vermont. There is another program that may be coming up known as All Fuels where fossil fuel use will be taxed.

“J” No, nor in Massachusetts.

“M” I would be supportive of an increase in taxes in order to fund alternative energy solutions in the State of Vermont.

A vast majority of all respondents to the surveys and interviews conducted in this project research bore out the results of a TIME Magazine/ABC News/Stanford University poll conducted in 2006 that global warming is occurring and will be a threat to future generations (Poll: Americans, 2006). Acknowledging this, however, does not address the problem and does not provide solutions. Actions that mitigate negative impacts and conserve energy are essential.

In order to do this, consumers, business and government must work together. The Roper Poll conducted in 1995 to gauge the public's understanding and acceptance and personal sense of responsibility to becoming sustainable showed that "by a two-to-one majority, Americans endorse the principles of sustainability, and are posed to act on them" (Sustainable Development, 1995). The surveys conducted for this project showed this as well. Once educated about the environmental impacts of their vacation destinations, a jump occurred in willingness of respondents to act on their knowledge.

For instance, the Internet survey initially showed only 25% of respondents considered the sustainability of their vacation destination. However, once given an opportunity to understand the environmental impacts, three quarters of respondents indicated they would choose to go to a destination that upheld environmental stewardship. The ski area survey showed a similar rise in consciousness when made aware of this choice. The spread between numbers of the NYC survey were less dramatic but still telling as 52.9% of respondents stated they would consider the environmental impacts of their vacation spot in the future compared to only 5% who had given it a thought initially.

This environmental awareness connection to decision making was also demonstrated in the University of Chicago's National Opinion Research Center poll described in Chapter Two of this project. The poll showed a significant decrease in respondents who stated they "don't know" as a survey response to a question about government spending on environmental issues (University of Chicago, 2006). The research suggests that those who are educated about environmental impacts will be able to make at least a reasoned decision. The results of surveys conducted for this research indicate the decision will be supportive of sustainable vacation destinations.

Unfortunately, economics has had a reputation of coming between environmental stewardship and conventional business practices. Admittedly, initially, environmental sustainability can come at a somewhat higher price. Short term goals of bottom line maximization may make the argument for sustainable practices difficult. Therefore, the willingness of a majority of survey respondents to pay more for a vacation that had a lesser carbon footprint was heartening. The ski area survey indicated that 90% would be willing to pay more, NYC survey takers showed that 76.5% would pay more and the Internet surveys showed that 70.5% of respondents would pay more for an eco-vacation. Most of those who were willing to pay more were willing to pay between 5% and 10% more. These numbers would help offset some of the initial costs of environmentally mindful practices such as replacing inefficient equipment with efficient equipment, changing light bulbs and fixtures, etc.

The response to a question posed to ski area representatives of needing a price increase because of their environmental programs such as installing a wind turbine, buying energy from renewable sources and replacing inefficient equipment was that an

increase was not necessary. Therefore, the consciousness and willingness to pay on the part of consumers combined with the ability of resorts to keep their prices at current levels, makes environmental stewardship a positive factor for everyone.

In addition to spending more for a vacation that was environmentally mindful, many survey respondents stated they would pay to help offset the carbon emitted in the transportation they took to arrive at their destination. Although carbon coupons were not offered at the ski areas where interviews were conducted, plans to offer them, based on the public's willingness to purchase them, were being formulated. The visibility of these and other environmental tools are important to business. All three interviewees stated visitors to the mountain showed an interest in, willingness to participate, and have actually demanded environmental programs such as recycling.

Even with consumer demand, environmentalism at ski/snowboard resorts is mostly voluntary. Apart from Act 250 in Vermont, and various air and water quality regulations, cold weather resorts are not mandated by government to be as efficient and sustainable as possible. The Natural Resources Defense Council's "Keep Winter Cool" campaign and the National Ski Area Association's "Sustainable Slopes" campaign provide ideas and support to those operators who decide to be responsible environmental stewards. However, there is no standard for all resorts. Operators can simply opt out of environmental stewardship. Opting out may or may not make good business sense in the long run and may not be an option in the future.

A resounding 82% of Internet respondents and NYC respondents were in support of laws and policies mandating resorts and other vacation destinations in the United States to adopt environmental practices. The ski area survey showed that 69% of

respondents were in support of mandates. One ski area operator felt mandates were a good idea but the other two felt they would not be a good idea and that ski areas were mostly making an effort on their own to become more efficient. Research conducted for this project differs somewhat with this conclusion, particularly in the response of the Bromley Resort operator who has chosen not to address stewardship at all. This bears out as well in the numbers put forth by the National Ski Area Association. Of the 485 ski resorts in operation in the United States, only 175 have signed on as endorsing the environmental principles of the NSAA.

Overwhelming public support for mandates demonstrated in the research surveys, along with the low numbers of resorts actually having signed on to NSAA environmental policies to date, provide incentives for government standards that would accelerate the movement of ski resorts into more efficient and sustainable business practices. However, for resorts that may be struggling financially, government mandates may force foreclosure unless funding is provided. A surprising 70.1% of New York City respondents favored an increase in taxes to fund environmental mandates. The Internet and ski area respondents favored a tax increase as well but not as strongly as NYC respondents. At a time when an additional tax burden would be difficult, the importance of environmental stewardship is borne out by the public's willingness to pay for it. This is also demonstrated in the willingness of consumers to pay for carbon offsets. In fact, a direct payment for offsets was favored over an increase in taxes. The reason for this is not clear except that, perhaps, consumers may be trying to find a way to directly make an impact in their personal green house gas emissions. Taxes may provide a somewhat nebulous way of making an impact. However, not all respondents feel the same. Two out

of three ski area operators do not favor tax increases citing programs that already exist and are supported by taxes. Also, there is a fairness issue associated with a general tax that requires everyone to pay even if they do not use the ski area. A direct tax in the way of a surcharge on lift tickets would be more equitable as those who play would pay for increased sustainability.

Efficiency Vermont is a funding tool currently available to Vermont ski resorts. This program provides money to help offset the costs of switching to energy-wise equipment and taking other energy-saving steps such as adding insulation. However, Efficiency Vermont is a temporary organization put in place to encourage ski areas to become more efficient resulting in less demand on the southern Vermont grid, and therefore a diminished need to expand a costly network. The ability of many ski resorts to implement sustainable practices will leave when Efficiency Vermont no longer exists. The inclination of the public to support environmental stewardship through the payment of increased taxes will help in environmental compliance efforts.

The cold weather resort industry needs to do all it can to become as sustainable as it can be. Particularly in the Northeast, ski/snowboard resort businesses will be impacted by global climate change as seasons will get shorter and more rain will fall on lower altitudes. Research for this project indicates a desire on the part of those resorts who acknowledge human action as having an impact on global climate change to make their resorts as “green” as possible. Jiminy Peak is leading the way with their 1.5 megawatt wind turbine. The turbine provides a third of the electricity used by the resort. By integrating conservation practices, snowmaking efficiency practices and other environmental programs and combining them with their wind energy generation, Jiminy

has saved over 4 million kWh per year. This means their electrical demand from the grid has been reduced by 49.6%.

Okemo Mountain Resort has also had a positive environmental impact. By buying renewable energy for their three popular resorts, the Muellers have created a demand for renewable energy and funded that demand by paying more per kWh than they would if the energy created were coming from coal fired power plants or nuclear power. By creating this renewable demand, there is less demand for energy from pollution-today or pollution-tomorrow means of energy generation. Other programs currently operating and proposed at Okemo will continue to move them forward into environmental sustainability.

Magic Mountain is the poor cousin of the ski resorts interviewed for this project. Although in financial straits, there is a genuine interest in moving forward in an environmentally sustainable manner. The representatives of Magic Mountain understand and acknowledge the business implications of a warming planet. Their recycling program, although not very sophisticated, is maintained in a serious and diligent manner and is appreciated by the visitors to the mountain. Mountain personnel are as mindful as possible with energy use and doing their best in light of restrictive budgetary constraints.

The answer to the final question of this project, “Are mountain resorts that tout themselves as ‘green’ really green or are they simply ‘green washing’ as a marketing tool?” is that they are what they say they are. If a resort has a marketing campaign about how green they are and the campaign is all over their website, they are making an effort to do all they can to be sustainable. If there is no acknowledgement of environmental stewardship at the mountain or on the website, they really are doing nothing to help the

environment, or themselves, in the long run. With successful companies such as Patagonia, Toms of Maine and Paul Newman earning sizeable profits based on their environmental and social responsiveness, stewardship not only makes good environmental sense, it makes sound business sense.

Humans have always been faced with challenges. Disease, famine, wars are all a part of the species' past, and regrettably, its present. There has been, however, no potential of a greater threat to the human species than global climate change. Now that most of the world's scientists agree that global climate change is occurring and that human actions are having an accelerating influence on the process (Union of Concerned Scientists, 2007), we all must accept the responsibility of addressing the environmental impacts of our activities. The Vermont ski industry is a small, but important example of how we can do this.

As previously stated, the Vermont cold weather resort industry is an indicator species of global climate change as are most of the low-lying mountains in the Northeast. This is because they will feel the economic effects of changing climates first in the way of less snow and shorter seasons. Their experience should send a clear message to resorts all over the world because, like the canary as indicator of impending disaster in the mine, if shorter, wetter, warmer seasons occur in Vermont, other, perhaps more catastrophic events will be felt all over the globe. Nature is, after all, intricately intertwined.

The interviews and surveys conducted for this research focused on what resorts were doing to change their carbon-intense ways and the expectations from the public that they do so. The surveys were also important in understanding whether the public was willing to pay, either through taxes or higher fees, for a transformation of vacation resorts from having negative environmental impacts to environmental sustainability. The results, as outlined in Chapter 5, were informative and thought-provoking. The interviews revealed a range of responses including those who were very concerned about the

impacts of their resorts and taking measures to mitigate them, through one resort operator's denial of any responsibility with the accompanying lack of action. The surveys indicated a shared interest by respondents from New York City, the Internet and skiers/snowboarders in seeking out environmentally responsible alternatives to conventional, carbon-intensive, travel destinations. When provided with information regarding the environmental mindfulness of the resort, respondents were favorable towards stewardship.

Education is extremely important. All the surveys showed that when people are educated about environmental issues and provided with an option of environmental responsibility, they chose the stewardship option and were willing to pay the premium. Although to a lesser degree, the surveys showed that the public is willing to pay a higher percent of taxes if the extra dollars would go directly towards carbon offsetting programs. Therefore, continued and focused environmental education of the public is important in addressing the negative effects of carbon-intense lifestyles and the decision making process when choosing a resort.

As the media and government-sponsored educational advertising such as that found in New York City subways continue to transport the masses into environmental cognition, the pressure to conform to environmental standards grows. Based on the conclusions of the research conducted for this project, the suggestion to resort owners would be that they begin, or continue, to pursue ways to lessen their environmental impacts. With fewer dollars to spend these days due to higher gas, food and consumer goods prices, consumers are becoming more particular about where they spend their vacation dollars. Since ticket prices at Vermont ski/snowboard resorts have not increased

even though some stewardship programs are already in place, a more expensive ski experience is not an issue. Therefore, an educated consumer will consider the carbon footprint of the resort. Those resorts that refuse to acknowledge the importance of environmental practices are making an offensive choice from an environmental perspective and are also making poor business decisions.

Resorts that choose to acknowledge the responsibility to curtail their negative environmental externalities should receive the benefits of this recognition. Forming compacts or partnerships with similarly minded resorts is one way to capitalize on doing the right thing. For example, Magic Mountain Resort is located in an area of three resorts formerly known as the “Golden Triangle.” These resorts could team up to take advantage of roundtable discussions, fresh ideas, more advertising dollars and being able to exert greater influence on government to continue to develop funding programs to help alleviate the costs of reducing resort impacts. Compacts could also inadvertently put pressure on other ski mountains to follow their environmental lead.

Also, by incrementally “greening” their resorts, ski/snowboard areas are providing an opportunity for investors seeking ways to broaden their environmental portfolios. With a goal towards increasing stewardship at the resort, investment could provide funding for technologies such as photovoltaic panels on roof tops, windmills, geothermal systems, fuel cell technology along with a host of other energy reducing and environmentally sustainable techniques. The Alternative Energy Fund (gafunds.com) and Green Century Fund (greencentury.com) are just two examples of a number of Wall Street traditional-style funds focusing on green investments. An investment opportunity that provides jobs, recreation, education and a connection to nature in an environment of

a reduced carbon footprint would help to make the social responsibility section of corporate annual reports stand out. By being able to implement environmentally minded programs, and with the public responding as indicated on the surveys, the bottom line returns may also stand out. Other opportunities, as well, could exist that would strengthen the environmental draw to the public.

As discussed in previous chapters, the National Ski Area Association has been encouraging in their support to resorts to become environmentally responsible. In addition to website listing of the resorts that voluntarily sign on to their programs, the National Ski Area Association may consider initiating a national marketing program to help sell these resorts to the public. The marketing would also serve to educate the public regarding environmental issues and the effects of their vacation decisions. Through increased and pointed advertising by the NSAA, resorts who have undertaken environmental stewardship would be rewarded and, through obvious omission, those who deny their responsibility would potentially be punished.

From a legislative point of view, cold weather resorts could be encouraged to start, or continue, their sustainability programs through government sponsored tax credits. These could be realized for environmental stewardship at resorts. The qualifications could include a documented marked decrease in energy use, documented increase in recycling programs, documented decrease in landfill waste, on site power generation, etc. Government policy could also encourage stewardship by levying additional taxes on those who choose to continue doing business as usual without regard to their negative impacts or externalities. As well, a cap and trade program could be implemented. Every resort would be given an equal number of carbon credits valued at a

specific amount. If a resort does not need to use all of its credits it could sell those credits to a carbon-intense resort. By doing this, resorts that have not yet implemented programs that reduce carbon will be strongly encouraged to do so.

Additionally, programs such as Efficiency Vermont, as discussed in previous chapters, should be extended past the final cutoff date of December, 2008. By providing energy audits and partial reimbursement for improvements, resorts such as Magic Mountain would be able to implement carbon offsetting techniques they would otherwise be unable to do because of their poor economic situation.

In addition to energy audits at resorts, the government must conduct, or cause to conduct, audits of current practices. Central Vermont Public Service Corporation is the electric utility in the area of research. Through conversations with resort representatives, a dichotomy in goals was discovered. CVPS has extremely high kWh rates for resorts up to a certain threshold of their electricity use. Once this threshold is reached, the rates per kWh decrease dramatically. In essence, CVPS encourages greater energy use while its offshoot program of Efficiency Vermont is charged with seeking ways to help resorts decrease their energy use. This makes no sense and must be remedied to give resorts who wish to minimize their carbon footprint every inclination to do so.

Finally, a government-instituted environmental standard for all resorts, accompanied by tax credits, incentives and penalties would help the Vermont ski/snowboard industry dramatically reduce its impacts. This would provide a fair system of compliance and stewardship. By aggressively “greening” policy as it relates to this major Vermont industry, legislators will not only be helping to ameliorate the carbon

loading of ski/snowboard resorts in a fair way but will be continuing to bolster Vermont's reputation as a state on the cutting edge of environmental stewardship.

The surveys, interviews and literature review used in this project were imperative in gaining an understanding of the extent of environmental stewardship of the ski/snowboard industry, how the public feels about their own environmental impacts and whether they would support environmental mitigation of resorts either through taxes or personal contributions. Unfortunately, the scope of this research was relatively narrow as time was a limiting factor. A larger survey and a more intense interviewing process involving resort operators all over the state would be worthwhile. If the results remained the same with the public willing to support greening of vacation destinations and many resorts already doing so, the impetus for both legislators and resort operators currently in denial to conduct business as usual would be challenged. The opportunity to change the adverse direction of climate change on the Vermont ski/snowboard industry is extremely narrow; a "wait and see" attitude is no longer acceptable.

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Appendixes

Questions for Representatives of Ski Resorts

1. Have you been mandated by the State of Vermont to address global climate change concerns?
2. Do you believe global warming is a threat to the cold weather recreation industry?
3. Do you feel it is the responsibility of ski and snowboard resorts to avoid, minimize and mitigate greenhouse gas emissions?
4. Does your resort have an environmental mission? If so, what is it.
5. What types of programs does this resort have in place to reduce environmental impacts?
6. Does the resort:
 - Buy or generate renewable energy;
 - Have a program for energy conservation;
 - Have a program for water conservation and quality;
 - Have a reduce, reuse, and recycle program;
 - Do its own composting of kitchen waste;
 - Operate hybrid and/or four stroke vehicles;
 - Have environmental education programs for staff and/or the public;
 - Use up to date efficient snowmaking technology;
7. What is the environmental concern you feel is the most urgent to address at this resort?
8. Do visitors to the mountain support your environmental efforts? ie. recycling, adhering to “no ski zones” etc.
9. Have you had to increase ticket prices as a direct result of your mitigation efforts?
10. If so, has this increase affected your sales of lift tickets?
11. Do you sell “cool tags” or some other type of carbon offsetting tool?

“When you buy a Cool Tag, Clif Bar invests \$2 in NativeEnergy’s Windbuilder’s program. This money goes to help the Rosebud Sioux Tribe build the St. Francis Wind Farm in South Dakota. Wind farms deliver clean, renewable energy to the grid – replacing energy from fossil-fuel burning, CO₂-creating power plants.” Mad River Glen
12. If so, have they been popular?
13. Do you have evidence that the public is demanding environmental stewardship from the vacation places where they choose to spend their money?
14. Would you support industry-wide mandates that would address the avoidance, minimization or mitigation of global warming practices?
15. Would you be supportive of an increase in taxes in order to fund alternative energy solutions in the state of Vermont?

7. When making your decision to come here, did you consider the environmental impacts of this or other ski areas?
- Yes ()
No ()
8. If Yes, what were the most important environmental factors you thought about when deciding where to go?
-
-
9. If not, is this a consideration you would make in the future?
- Yes ()
No ()
10. All else being equal, would you choose an area that was more environmentally responsible over an area that was not?
- Yes ()
No ()
11. Do you believe ski areas should be doing more to make sure they minimize their environmental impacts?
- Yes ()
No ()
12. Are you in favor of government controls via laws or policies mandating ski resorts to adopt environmental practices?
- Yes ()
No ()
13. Would you be willing to pay a specific tax, such as a carbon reduction tax, to help offset the costs of reducing negative environmental factors in resort areas?
- Yes ()
No ()
14. Would you be willing to spend more for a lift ticket at a resort that had to adopt environmental practices?
- Yes ()
No () Please go to question 15.
15. If you would be willing to spend more, how much more?
- 5% ()
10% ()
20% ()
Other. Please specify _____

16. Would you be willing to offset your carbon footprint for the transportation you took to get here by contributing to a carbon offsetting program of \$1, \$5, \$10 or more?

Yes () How much? _____
No ()

Thank you for your time.
Karina Warshaw

SURVEY (#2 – City Dwellers)

Introduction: I am a graduate student in the MPA (Masters of Public Administration) program at Pace University in New York. I am working on my final project. Your responses will be used in analysis for my paper and presentation. All surveys are completely anonymous. I ask you to be as honest and forthright as you can. This survey should take approximately five minutes to complete. Thank you!

Purpose: The purpose of this survey is to gain an understanding of why people choose to visit various recreational areas and whether those decisions are influenced by environmental concerns.

Questions: Please check the correct response or explain on the lines provided.

1. What is your age range?
1 - 18 ()
19 – 35 ()
36 – 50 ()
51 – 70 ()
71 – 90 ()

2. What is your highest educational level?
Elementary School ()
Middle/High School ()
College ()
Graduate School ()

3. Have you taken a vacation in the last year?
Yes ()
No ()

4. If so, where did you go?
Warm weather area ()
Cold weather area ()

5. How long did you stay in that area?
1-3 days ()
4 – 7 days ()
Other ()

6. When making a decision as to where to vacation, did you consider the environmental impacts of the resort or recreational area?

Yes ()
No ()

7. If Yes, what were the most important environmental factors you thought about when deciding where to go? _____

8. If the environmental impacts were disclosed, would it make a difference in your decision of where to spend your recreational dollars?

Yes ()
No ()

9. Would you pay more to go to a resort or other area that was environmentally responsible?

Yes ()
No ()

10. If you would be willing to spend more, how much more?

5% ()
10% ()
20% ()
Other. Please specify _____

11. Would you be willing to offset your carbon footprint for the transportation you took to get to your vacation destination by contributing to a carbon offsetting program of \$1, \$5, \$10 or more?

Yes () How much? _____
No ()

12. Do you believe global climate change is a threat to the United States?

Yes ()
No ()

13. Would you be in favor of laws and policies mandating resort and other vacation destinations in the United States to adopt environmental practices?

Yes ()
No ()

14. Would you be willing to pay a specific tax, such as a carbon reduction tax, to help offset the costs of reducing negative environmental factors in vacation areas?

Yes ()
No ()

Thank you for your time.
Karina Warshaw

For your consideration: (Information for Ski Area Patrons)

Environmental impacts of ski areas include but are not limited to:

- water consumption in snowmaking;
- diesel consumption in snowmaking and grooming;
- electrical consumption in running lifts, snowmaking, and lodge maintenance and activities;
- impacts on sensitive alpine ecosystems when developing or widening trails;
- erosion/runoff from snowmelt;
- development in general.

Carbon Footprint – the amount of carbon humans produce as they go about their lives. Carbon is a major contributor to greenhouse gases and the resulting negative effects of global climate change.

For your consideration: (Information for Miscellaneous Survey Participants)

Environmental impacts of resort and other vacation areas include but are not limited to:

- water consumption;
- wastewater production;
- diesel and other fuel consumption in recreational vehicle use;
- electrical consumption;
- impacts on sensitive ecosystems from development.

Carbon Footprint – the amount of carbon humans produce as they go about their lives. Carbon is a major contributor to greenhouse gases and the resulting negative effects of global climate change.

Okemo Mountain Resort Environmental Policy

Okemo Mountain Resort is dedicated to the preservation of Vermont's intrinsic beauty and fostering a culture among its employees and guest that promotes the importance of environmental stewardship. Generations of Vermonters and visitors alike have enjoyed the cold and snowy winters, vibrant fall foliage, temperate summers and the many activities that Okemo offers. We are committed to doing our part to insure our environment supports the same opportunities for generations to come.

Commitments:

- Insure compliance with all applicable state and federal environmental regulations through diligent monitoring, reporting, and open communication with regulatory agencies.
- Protect the water resources of the Black River Valley through responsible drinking water aquifer protection, monitoring the quality and health of our mountain streams, careful extraction of water for snowmaking, and progressive integration of stormwater infrastructure into our facilities.
- Utilize and handle hazardous materials and waste responsibly through proper training, storage, regulatory compliance, and emergency preparedness. Identify alternatives to use of toxic substances and opportunities to reduce hazardous waste streams.
- Work hand-in-hand with regulatory agencies to insure our land use practices assimilate environmental considerations into the decisions that shape our resort. We recognize that good environmental practices are also good business practices as resource conservation saves resources, energy and money.
- Manage vigilantly our use of the Okemo State Forest and abutting properties to minimize affects to ecosystems and develop management plans to preserve and, whenever feasible, improve wildlife habitat.
- Consider energy in all aspects of resort operations. From building construction and maintenance to mountain operations and guest services; new, innovative, and efficient technologies and initiatives will be evaluated and implemented whenever feasible.
- Continuously assess waste streams for opportunities to reduce, reuse, and recycle and recognize that the products we vend and utilize have an impact prior and subsequent to our use. Advance Okemo's waste handling capabilities to provide opportunities for our employees & guests to easily access responsible disposal choices.
- Take advantage of Okemo's role as employer and host to educate our community regarding their place in the environment.

By creating this Environmental Policy, Okemo hopes to contribute to the growth of an ethic that helps to insure the health of the environment that supports our community and the long term viability of our company.

Jiminy Peak Resort Environmental Policy Statement

The Jiminy Peak Resort Management and Employees are committed to being responsible stewards of Massachusetts' natural resources. Massachusetts' beauty and healthfulness are an integral part of our business. We live here, and working to maintain it comes naturally.

Jiminy's policy of environmental awareness is seen in all our activities. We seek to raise the environmental awareness of guests and employees, and to broaden their knowledge and appreciation through educational programs along with our active and passive use of the land for year-round recreation.

Our development and maintenance programs are guided by principles of land and energy conservation, by forest and wildlife habitat preservation, and by maintaining Massachusetts' water quality and aesthetic beauty.

Jiminy Peak strongly believes in preserving the Earth for future generations. We are showing our commitment by being the first Mountain Resort in North America to install a wind turbine in order to generate clean, natural energy. Together we can shape a sustainable future.