

NSAA

Sustainable Slopes

ANNUAL REPORT 2011



KEEP WINTER COOL



NSAA wishes to thank the following resorts for submitting applications to the 2011 Sustainable Slopes Grant Program and Golden Eagle

Awards:

NSAA commends the 8 resorts who took up the Climate Challenge for 2011/12:

Alta Ski Area

Arapahoe Basin

Canyons

Jackson Hole

Jiminy Peak

Mt. Hood Meadows

Park City

Telluride

Alta Ski Area

Angel Fire Resort

Arapahoe Basin

Beaver Valley Ski Club

Cooper Spur Ski Area

Crested Butte Mountain Resort

Deer Valley Resort

Homewood Mountain Resort

Grand Targhee Resort

Jackson Hole Mountain Resort

Killington Ski Resort

Mt. Abram Resort

Mt. Hood Meadows

Oak Mountain

Park City Mountain Resort

Pico Mountain Ski Resort

Purgatory at Durango Mountain Resort

Stevens Pass Resort

Stowe Mountain Resort

Stratton Mountain Resort

Winter Park Resort

2011 HIGHLIGHTS

The National Ski Areas Association (NSAA) is pleased to report on the sustainability efforts of resorts in the 2010/2011 season. At the outset, we would like to thank our long standing chairman of the NSAA Environmental Committee, Jerry Blann of Jackson Hole, for fifteen years of outstanding service in guiding NSAA's environmental programs. The Sustainable Slopes program would not be what it is today without his commitment, vision and leadership. Jerry Blann retired as Chair this season and passed the reins to Alan Henceroth of Arapahoe Basin. NSAA welcomes Alan Henceroth in this role and looks forward to working together for our common goal of improving environmental performance across the nation's slopes.

Last year was the 10-year anniversary of Sustainable Slopes. The program continues to evolve and incorporate new initiatives that reflect emerging trends. The year 2011 was a great year for inspiring better results in sustainability programs across the ski industry. By way of background, more than 190 resorts have endorsed the Environmental Charter over the past decade, representing over 75 percent of the ski resorts nationally by skier visits. Upon endorsing the Charter, these resorts have identified an environmental contact person, assessed their policies and operations against the Environmental Principles in the Charter, and have taken steps toward improved environmental performance. Given variances in size, technical expertise, financial resources, and geographic location, resorts are at different points with respect to their environmental programs and implementation of the Environmental Principles but all are making efforts that are meaningful.



We are pleased to report that our newest installment to the program — the Climate Challenge— has eight participating resorts in its first year. These founding resorts are Alta, Arapahoe Basin, Canyons, Jackson Hole, Jiminy Peak, Mt. Hood Meadows, Park City, and Telluride.

This newly created competition is designed to give recognition to ski areas that are developing carbon inventories, setting goals for carbon reduction, and measuring success in reducing their overall carbon footprint. With guidance, resorts will set quantitative greenhouse gas reduction targets and timelines, and develop plans for reaching these targets. More information on the Climate Challenge is provided in Chapter 2.

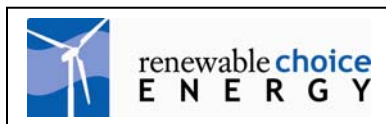
We are also pleased to announce the continued success of our Sustainable Slopes Grant Program. The program is made possible by generous donations from our sponsors, including Leitwind and NSAA supplier member **HKD Turbo**. The two in-kind grants of 5 SV10 high efficiency snowmaking guns have a total value of \$40,000 and were awarded to **Oak Mountain** in New York and **Beaver Valley Ski Club** in Ontario, Canada. In addition, four cash grants sponsored by energy bar maker **CLIF Bar & Co.**, the **Natural Resources Defense Council (NRDC)**, **LeitWind** and **Renewable Choice Energy** were awarded to resorts for the following programs: a lighting retrofit project at **Arapahoe Basin** (Colorado), purchase and



installation of Big Belly Solar Compactors at **Stratton Mountain Resort** (Vermont), water bottle refilling stations at **Mt. Hood Meadows** (Oregon), and an Electric Vehicle Integration Program at **Stevens Pass** (Washington). For more details on the goals of the grant program and the recipient projects, see Chapter 2 of this Annual Report.

NSAA's education program continues to provide for opportunities for ski areas to learn about new trends and raise the bar with their sustainability programs. At NSAA's Western Winter Trade Show and Conference at Snowbird, Utah, Frank Lowenstein, Climate Adaptation Strategy Leader for the Nature Conservancy, provided insights on climate change adaptation. His session presented both challenges and solutions for ski areas to evaluate as part of their advanced planning, especially given the potential for loss of water resources in forests, severe droughts, and higher temperatures – and their potentially significant impact on future resort operations.

Also at the winter session, NSAA's new Environmental Committee Chair, Alan Henceroth, introduced the Climate Challenge to the audience and encouraged resorts to consider joining it in the spring. At the 2011 National Convention at La Costa in Carlsbad, California, Brendle Group Principal Judy Dorsey and Brendle Group Engineer, Seth Jansen, lead a technical workshop entitled "NSAA's New Climate Challenge: Bragging Rights, Cost Savings and All the Reasons In Between...For Becoming the Industry's Biggest Loser." The session focused on the "Inventory-Target-Reduce" elements of NSAA's New Climate Challenge and was well attended by resorts currently participating in the Climate Challenge as well as those interested in joining the program in future years.



NSAA's member resorts are committed to investing in green power. An impressive number of ski areas purchase renewable energy credits (RECs) to offset a portion of, or 100 percent of, their energy with clean, renewable energy. NSAA, together with the Professional Ski Instructors Association/American Association of Snowboard Instructors, continue to purchase RECs from **Renewable Choice Energy** to offset 100 percent of the greenhouse gas emissions associated with operating our respective office space and storage warehouse in Lakewood, Colorado.

NSAA is pleased to have Renewable Choice Energy on board as a partner and sponsor of the Climate Challenge. Renewable Choice not only is investing dollars in the Climate Challenge, it is lending its expertise in the area of carbon inventories and carbon reduction strategies for the program.

NSAA's **SWAG**, or Sharing Warmth Around the Globe, program continues to succeed and offers a unique opportunity for resorts to demonstrate their commitment to sustainability. Through the SWAG program, NSAA distributes retired ski resort uniforms and winter garments that would otherwise be discarded to those in need in cold weather countries throughout the world. During the 2010/11 season, SWAG donated a little over 10,000 garments. These donations helped people who desperately needed something warm to wear during the cold winter months. In total, the SWAG program has donated over 133,500 pieces.



Over 20 resorts are partnering with the **National Forest Foundation** (NFF), a non-profit partner of the U.S. Forest Service, to fund conservation projects on the National Forests. The program, called **Ski Conservation Fund**, has raised \$3.5 million dollars since the program's inception, including NFF matching funds. Every dollar invested in the NFF in on-the-ground conservation projects results in a total of nearly \$4.50 invested in on-the-ground conservation projects. This is made possible through the addition of federal funds, in-kind support, and private funds. The projects funded by NFF include restoring and maintaining trails, protecting and improving clean water sources and aquatic species habitat, safeguarding and enhancing critical wildlife habitat, and assisting communities in caring for their local forests. For more information on NFF, visit www.nationalforests.org.

Finally, NSAA is proud to recognize the winners of the 2011 Golden Eagle Awards. These awards, initiated in 1993 to recognize environmental excellence in the ski industry, are the highest honors bestowed on a resort's environmental program. NSAA would like to thank CLIF Bar & Co. for sponsoring and administering the awards for the past five years. We are currently searching for a new sponsor and administrator of this important awards program and have changed the format of the program for 2011 and beyond. Three Golden Eagle Awards are now presented to a small (up to 200,000 visits), medium (200-500,000 visits) and large resort (over 500,000 visits) with a deserving environmental program or project.



Grand Targhee, the winner in the small ski area category for 2011, not only met, but exceeded its goal set in 2010 to reduce its energy use by 10 percent below the previous five year average. By season's end, Targhee achieved an 18 percent reduction in electricity use, which marked the lowest electricity use at the resort in a decade. The ski area accomplished this reduction through equipment upgrades and retrofits, building weatherization, improved operating procedures and policies and most importantly, behavioral change. **Jackson Hole** took the top environmental honors in the medium sized ski area category for implementation of its ISO 14001 registered Environmental Management System (EMS) over the past five years. The EMS provides for integration of all departments to reach overall resort sustainability goals; promotes



continuous annual improvement; and involves monitoring, reporting and external verification to international standards. Finally, **Park City** won the Golden Eagle Award in the large resort category for its efforts in reducing the ski area's carbon footprint. In the 2010/11 season, Park City reduced its carbon footprint by a whopping 54.8 percent, equivalent to taking 7,112 cars off the road for one year or the electricity used by 4,514 homes in one year.

NSAA would like to thank the judges for this year's Golden Eagle Awards, including: Rod Judd, International Mountain Bicycling Association; Judy Dorsey, Brendle Group; Elysa Hammond, CLIF Bar & Company; Geraldine Link, NSAA; Loren Kroenke, USDA Forest Service; Greg Owsley, New Belgium Brewing Company; and Kirk Mills, Colorado Department of Public Health & Environment (CDPHE).

On behalf of ski areas across the country, NSAA would like to express our appreciation for all of the individuals, organizations, and agencies outside the industry that have supported Sustainable Slopes over the past decade. We have our partners, stakeholders and innovators to thank for our collective successes.

Geraldine Link
Director of Public Policy
September 2011



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1.0 SUSTAINABLE SLOPES ENVIRONMENTAL CHARTER

1.1 HISTORY AND PURPOSE OF THE CHARTER

Every year, millions of people visit ski areas across North America to enjoy snow sports and to experience the natural beauty of the mountain environment. These visitors place a high priority on environmental concerns. In order to continue to offer quality recreational experiences that complement the natural and aesthetic qualities that draw these visitors to the mountains, the National Ski Area Association (NSAA) and its member resorts have committed to improving environmental performance in ski area operations and management. This commitment is detailed in the Sustainable Slopes Environmental Charter for Ski Areas adopted in June 2000 and revised in 2006.

1.2 OVERVIEW OF THE ENVIRONMENTAL CHARTER

The Environmental Charter promotes sound environmental stewardship and, more importantly, offers a comprehensive set of 21 Environmental Principles that enable ski area operators to make sustainable use of natural resources. The Principles are the key to the Environmental Charter and address the following topics:

1. Planning, Design, and Construction
2. Water Use for Snowmaking
3. Water Use in Facilities
4. Water Use for Landscaping and Summer Activities
5. Water Quality Management
6. Wastewater Management
7. Energy Use for Facilities
8. Energy Use for Snowmaking
9. Energy Use for Lifts
10. Energy Use for Vehicle Fleets
11. Waste Reduction
12. Product Re-use
13. Recycling
14. Potentially Hazardous Wastes
15. Fish and Wildlife Management
16. Forest and Vegetative Management
17. Wetlands and Riparian Areas
18. Air Quality
19. Visual Quality
20. Transportation
21. Education and Outreach

To see the Charter and its Principles in their entirety, visit the NSAA web site at

WWW.NSAA.ORG

Understanding that ski areas have some unavoidable impacts, the Principles encourage ski areas to adopt the “avoid, minimize, mitigate” approach to natural resource management.



For each of the 21 Environmental Principles, the Charter identifies a range of "Options for Getting There" that resorts can implement to achieve the Principles. These "Options for Getting There" serve as a menu of realistic actions ski areas can and are taking, all or in part as their resources allow, to continually improve their operations. The "Options for Getting There" are detailed for each of the 21 Principles in the Charter document available at www.nsaa.org.

Because not all resorts have the same concerns and resources, the Charter is designed to allow resorts to use the Principles as a framework and then choose the "Options for Getting There" that make the most sense given their individual circumstances and capacities. We hope that each resort continues to take the challenge to achieve the greatest possible results individually for greater conservation collectively.

It is important to note that the Charter's Principles are voluntary, and in adopting them, resorts have committed to going beyond regulatory compliance in those areas where improvements make environmental sense and are economically feasible. Ski areas already should be meeting all applicable federal, state, and local environmental requirements. The Principles are the means by which the industry can collectively *improve environmental performance*. There are many incentives for going beyond compliance, including reduced environmental impacts, increased monetary savings, reduced regulatory liability, and increased positive public image. Good environmental practices are good business, and quite simply are expected by resort customers, the Partnering Organizations of the Charter, and other key stakeholders.




1.3 THE FUTURE

NSAA will continue the Sustainable Slopes Grant Program into the future with an emphasis on direct assistance and on-the-ground improvement. The Grant Program has and will continue to spark innovation among resorts and allow resorts with fewer resources to take on sustainability projects that might not otherwise happen. It also is a great vehicle for sharing of information among resorts, which can be inspiring and immensely helpful to others in the industry. An ongoing goal is to increase participation in the Grant Program among resorts and also increase sponsorships so that more funding will be available. Additionally, NSAA is excited to implement the new **Climate Challenge** program and support it in conjunction with the Sustainable Slopes Grant Program (see Chapter 2 for more information). The Sustainable Slopes grant program is a natural fit with the Climate Challenge and can bring modest financial support toward meeting resort targets set in the Climate Challenge.

As Sustainable Slopes matures, the nature of its goals continually changes to meet the needs and expectations of member resorts and Partnering Organizations. NSAA hopes to create sources of new momentum for the program, such as the Climate Challenge, and to recognize ever higher levels of performance while continuing to encourage broad participation and efforts across the industry.



1.4 ENDORSING RESORTS



On an individual basis, ski areas take their stewardship role seriously and continue to take innovative steps each year to address environmental challenges. The Charter represents a collective step toward meeting these challenges. To date, over 190 ski areas have endorsed the Charter and are committed to implementing its Principles. For a list of endorsing resorts sorted by resort name or State/Province location, visit the NSAA website at www.nsaa.org. Over 50 of the endorsing ski areas contributed to the information presented in this report by submitting Sustainable Slopes Grant Applications, Climate Challenge Applications, Golden Eagle Award Applications and summary paragraphs.



2.0 SUSTAINABLE SLOPES GRANT PROGRAM AND CLIMATE CHALLENGE

The purpose of the Sustainable Slopes Grant Program is to spark innovation and increase resorts' progress in implementing the Environmental Principles of the Charter.

2.1 BACKGROUND

NSAA began a modest grant program in 2009 as a partnership between NSAA and industry stakeholders. The purpose of the Grant Program is to spark innovation and increase resorts' progress in implementing the Environmental Principles of the Charter by putting money on the ground.

2.2 SNOWMAKING GRANTS

Similar to last season, NSAA supplier member Snow Economics, Inc. or HKD Turbo made two in-kind snowmaking grants. HKD is a long-standing family business based in Natick, Massachusetts.

Snow Economics has installed its energy efficient HKD air/water technology at more than 420 ski areas around the world. The two in-kind



grants of 5 SV-10 high efficiency snowmaking guns have a total value of \$40,000 and were awarded to Oak Mountain in New York and Beaver Valley Ski Club in Ontario. in Colorado. The HKD Turbo' contribution to the Sustainable Slopes program is much appreciated, and this year serves as a model for other supplier members of NSAA looking to support the industry in improving its sustainability. HKD would like to encourage more ski areas to apply for snowmaking grants in the future!

Here is how Oak Mountain and Beaver Valley Ski Club intend to use the high efficiency snowmaking guns and what their plans are for reinvesting the savings that result.

Oak Mountain, New York Snowmaking Grant Awardee

Oak Mountain is a small ski area and one of the oldest mountains in the United States. Much of the equipment at the mountain is relatively old and does not meet current Low-Energy standards. As a small, community run mountain, responsible energy use is a high priority. Oak Mountain's snowmaking goal is to apply the new snowmaking equipment on a trail that is 2,000 feet in length and 80 feet in width. The installation will be done by current employees with existing equipment. The new HKD equipment will provide the needed three feet of snow in the event that mother nature does not provide the base. The annual operating savings is expected to be \$2,202. Oak Mountain hopes to apply the energy cost savings to completing the Climate Challenge in the future.



**Beaver Valley Ski Club, Ontario
Snowmaking Grant Awardee**

Beaver Valley Ski Club is a small resort in Ontario Canada. The ski area's main terrain park, Andy's Playground, is the longest in Ontario. The run is approximately 2650' long and 240' wide, and typically the resort puts an average of 4' depth of snow on it. Beaver Valley currently has a mixture of snow gun technologies. The ski area has purchased approximately 45 low energy stick guns within the past 5 years. The ski area has been upgrading and repairing leaking air hydrants across the resort to minimize the amount of "lost" air and has some realized some marked improvements as a result. The ski area has considered relacing its air compressors with larger units in order to increase capacity, but with the new HKD guns, the ski area shold be able to get by with the small air compressor plant that it currently uses – added savings! Additionally, the SV-10s will help the resort make snow much earlier in marginal temperatures.

Beaver Valley estimates that the 5 HKD SV-10 towers from the grant will save approximately \$8,000 to \$9,000 annually. Among the potential applications of these savings will be reinvesting in low energy snowmaking technology and trail automation that would ultimately lead to a significantly more efficient snowmaking system that would allow the resort to reach its snowmaking goals in far fewer operating hours and thereby reduce the amount of electricity used overall. Additionally, the savings may fund some of the ski area's smaller sustainability projects including automated lighting solutions, stream rehabilitation efforts and green building technologies.

2.3 CASH GRANT CRITERIA

Funding for the cash grant program this year came from generous sponsorships from energy bar maker **CLIF Bar & Co.**, **Natural Resources Defense Council (NRDC)**, **LeitWind**, a division of **Leitner Technologies**, and **Renewable Choice Energy**. Grant funds may be used to support design or implementation of measures, including capital costs, related to sustainability across any of the Principles. Only future or on-going projects are eligible for funding. For a copy of the grant application for 2011 as well as summary of last year's winners, see Appendix A.

In order to be eligibile for a grant, applicants are required to be ski area members of NSAA that have endorsed the Sustainable Slopes program. The following selection criteria are applied.

Does the initiative...

- Demonstrate innovation in improving sustainability?
- Raise environmental awareness?



- Promote concrete environmental actions?
- Promote the goals of Keep Winter Cool?
- Have a high likelihood of success (the necessary expertise and experience to achieve stated goals)?
- Have the ability to be replicated by others in the ski industry?
- Involve other partners, sponsors or underwriters?
- Rely on this grant money for implementation?
- Help meet any goals set for the Climate Challenge?

2.4 2011 GRANT AWARD WINNERS

This year, four cash grants were awarded to resorts for deserving and innovative projects.

Arapahoe Basin, Colorado

Lighting Retrofit

Grant Amount: \$5,000



Arapahoe Basin is undertaking a lighting retrofit for all of its base area buildings excluding its newest building, the Winter Sports Building. The lighting retrofit would consist of replacing approximately 343 fixtures within the A Frame, the First Aid Room, Guest Services, and the building that contains the Tickets/Pass office, Accounting, Kid Zone and locker room. The total approximate reduction in kWhs is 53,042 with a total annual utility savings of \$4,509. A-Basin's lighting upgrade will not only improve efficiency, but it will provide better lighting quality which will improve the ski area guests' visual perception of us, increase employee productivity through visual acuity improvements and color perception, and reduce operating and maintenance costs by operating more efficiently. The project offers a very strong financial return, typically 1-3 years and will dramatically reduce the ski area's environmental impact. According to the EPA, for each kWh saved, approximately 1.8 pounds of Carbon Dioxide (CO₂), .006 pounds of Sulfur Dioxide (SO₂), .003 pounds of Nitrogen Oxides (NO_x), and .043 milligrams of Mercury (Hg) are eliminated from future power plant emissions into our atmosphere annually. Locally, the impact



would be like removing 7 cars from the road and planting 15 acres of trees. The initial cost of this project is approximately \$16,550. There is potential for a rebate of \$4,217 which leaves the resort with a balance of \$12,333. Arapahoe Basin will apply the \$5,000 Sustainable Slopes grant to help fund this project.

Mt. Hood Meadows Ski Resort, Oregon
Water Bottle Refilling Stations
Grant Amount: \$2,414



In an effort to reduce the sale of bottled water at the resort, this grant funding will support installing two high-quality water bottle refilling stations with adjacent educational signage. Mt. Hood Meadows has stopped selling bottled water in its newly remodeled self-serve deli and installed a tap handle which promotes its pure mountain spring water that the resort calls

“H2Snow” and lets the guests know that this water comes from a well on Mt. Hood. It also promotes the refillable bottles that the resort offers for sale. The ski area has five visible water fountains which work just fine, but for filling a bottle, are less than ideal. For added convenience, Mt. Hood Meadows will add the water bottle refilling stations to offer an increased opportunity for guests in high traffic areas. The project will promote waste reduction by increasing opportunities for, and creating awareness of, the benefits of avoiding disposable bottles. Even though they are recycled, there is still a large “footprint” associated with producing these bottles in the first place. The cost for the purchase of two Elkay bottle filling stations is \$1,913.60. With the addition of labor costs, the units will be a total of \$2,414.

Stevens Pass, Washington
Electric Vehicle Integration Program
Grant Amount: \$4,500



Stevens Pass is expanding on its recent cutting edge Electric Vehicle project by incorporating additional vehicle types. Stevens Pass recently installed two Level-II EV charging stations (6 hour full charge) that are connected to the internet via cellphone network. Stevens Pass is the only mountain pass in the country offering public chargers year-round. Stevens Pass’ highway

(US 2) is the country's first and only "recreational electric highway," offering tourism opportunities for city-based EV owners. Building on its concerted effort to facilitate more non-polluting EV use locally and regionally, and to take advantage of its low-impact clean hydropower, the ski area has turned its sights to small combustion engines: utility runabouts (UTVs) and snowmobiles. As the ski area begins to develop its new summer mountain bike park, it has identified a need for a compact all wheel drive, all terrain runabout vehicle to use for trail rescues, first aid, bike patrol, and risk management tasks. The ski area will fully test an electric UTV that seems ideally suited for this use. Second, in partnership with a small design engineering firm, the ski area aims to help develop and field-test a prototype electric snowmobile, providing real world data. These initiatives align with Stevens Pass' existing EV Charging project by minimizing the ski area's carbon footprint, encouraging development of future, clean energy alternatives, and meeting the expectations of the resort's environmentally progressive guests.

**Stratton Mountain Resort
Solar Trash Compactors
Grant Amount: \$5,000**

Stratton Mountain Resort will install four Big Belly Solar Compactors resort wide with the help of this Sustainable Slopes grant. Big Belly Solar Compactors will be used in three locations to reduce the number of trips necessary to perform waste removal, thus reducing the resort's operational greenhouse gas emissions. The compaction of the trash at these locations is estimated to reduce the number of trips necessary by 80%, resulting in significant fuel savings and the associated reductions in emissions. Moreover, by utilizing compaction from solar energy, the ski area is showing the viability of renewable power in this northern region. The ski area has sought out additional partners in this project and has raised \$9,900 already in committed funds.



2.5 THE CLIMATE CHALLENGE

New in 2011, the Climate Challenge is a voluntary Sustainable Slopes program dedicated to helping participating ski areas reduce greenhouse gas (GHG) emissions and reap other benefits in their operations, such as reducing costs for energy use. Participating ski areas must be endorsers of the Sustainable Slopes Charter to accept the Challenge and are required to make a three part commitment following the “Inventory, Target, Reduce” elements of the Climate Challenge program:

- Complete a climate inventory on their resort operations. Instructions and technical support for completing the inventory will be developed by Brendle Group, NSAA's engineering consultants for Sustainable Slopes;
- Set a target for GHG reduction. The target is entirely up to the resort, and Brendle Group will provide participating resorts guidance on what goals to set. An example of a reduction goal is “5% reduction in 5 years.”
- Implement a new program or project annually to meet the reduction goal. Examples might be lighting retrofits or development of on-site renewable energy.

Eight member ski areas have stepped up to take on the 2011 Climate Challenge. Those ski areas include Utah's Alta, Canyons and Park City Mountain Resort, Colorado's Arapahoe Basin and Telluride Ski and Golf Resort, Jackson Hole, Wyo., Jiminy Peak, Mass., and Mt. Hood Meadows, Ore.

In addition to taking on the “Inventory, Target, Reduce” steps identified above, participating resorts are required to contribute \$2,000 to help cover the costs of developing a ski area specific template for a GHG inventory and technical support over the year. Technical support will include data collection tools and reporting templates; GHG inventory guidelines; inventory training including a Climate Challenge handbook; guidance on setting and meeting targets; developing a GHG Inventory Management System; and On-call support for participating ski areas as needed during the Challenge process. In future years, participating resort will be required to handle only maintenance costs estimated at less than \$200 per year.

NSAA welcomes additional resorts to join the Climate Challenge in the spring of 2012. The benefits of participating are numerous. In addition to taking a leadership role in the ski industry's efforts to fight climate change, ski areas participating in the program receive recognition through NSAA's website, press releases and *Journal*; use of the Climate Challenge logo; formal training and ongoing technical support from Brendle Group; access to GHG inventory templates that comply with The Climate Registry's General Reporting Protocol – a well-recognized nationwide standard for conducting inventories; and ability to benchmark operations against other ski area and to verify and register the inventory with The Climate Registry.



NSAA would like to thank our partners in the Climate Challenge for their financial and technical support:



LeitWind is part of LEITNER TECHNOLOGIES group, a name which has been a synonym for high performance technology of ropeways and snow groomers since 1888. LEITNER TECHNOLOGIES employs more than 2030 people worldwide at its plants in Italy, Austria, France, India and North America, as well as in 70 sales and service points. Since 2000, continuous research and development coupled with a high degree of technological competence have enabled LEITWIND to take advantage of synergies between the ropeway and the wind turbines technologies. The resulting turbine is an integration of a direct drive generator into a wind turbine. In 2003, Leitner produced and installed its first wind turbine prototypes that incorporated this revolutionary technology. Starting in 2007, Leitwind began serial production of wind turbines. For the engineers, the search for quality and simplicity is a primary objective in all of the group's businesses. Since the company's inception, LEITNER Technologies' success is based on quality and leading edge technology. (www.leitwind.com)



Based in Boulder, Colorado, **Renewable Choice** has helped clients become leaders in their industry by supporting sustainability initiatives that increase transparency, reduce risk, lower costs, leverage competitive advantages and improve stakeholder relations. Renewable Choice's experienced team of professionals provide service in areas of carbon accounting and disclosure, supply chain sustainability assessments and scorecard programs, energy audits, renewable energy and carbon offsets and strategic planning. Renewable Choice provides renewable energy credits (RECs) to NSAA and many ski areas across the country. (www.renewablechoice.com)



CLIF Bar & Company is a leading maker of nutritious, all-natural organic foods and drinks, including CLIF® BAR energy bar, CLIF SHOT® Clean + Natural Performance™ products, LUNA®, The Whole Nutrition Bar for Women®, and CLIF Kid®, Nourishing Kids in Motion®. Focused on sports nutrition and healthy snacks, the company is committed to sustaining its people, brands, business community and planet. (www.clifbar.com)

CLIF Bar has partnered with NSAA on Keep Winter Cool since 2004.





Natural Resources Defense Council is an international nonprofit environmental organization with more than 1.3 million members and online activists. Since 1970, its lawyers, scientists, and other environmental specialists have worked to protect the world's natural resources, public health, and the environment. NRDC has offices in New York City, Washington, D.C., Los Angeles, San Francisco, Chicago, Livingston, Montana, and Beijing. NRDC has partnered with NSAA on Keep Winter Cool since 2003. Visit NRDC at www.nrdc.org

The generous sponsors of the Climate Challenge make this new and innovative program possible.

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3.0 MEMBER SURVEY AND RESORT PROGRESS

Over 50 resorts provided information for the 2011 Sustainable Slopes Annual Report through the Grant Program, the Golden Eagle Awards, the Climate Challenge, and the collection of 2011 summary paragraphs this spring. Below are summary paragraphs from participating resorts in the United States and Canada about their efforts over the past year related to the Charter and its Principles.

3.1 SUMMARIES OF RESORT PROGRESS

Alta Ski Area, Utah

Alta Ski Area continues to pursue sustainability initiatives and actions across departments with the guidance of its own Alta Environmental Center (AEC) and its mission - to protect and improve the well-being of Alta's environment, ski economy, and community. Alta is pleased to have made significant progress over the past year. While every initiative has its tribulations, Alta's employees work hard at being a team and seeing projects through. Here are our past season's highlights:

- **Lighting Upgrade:** Alta finished upgrading to T8 lamps and ballasts in all on-mountain facilities. As a result, Alta will see a reduction of 90,000 kWh in electricity use and 96 tons of CO2 equivalent emissions, with an ROI of less than 5 years (labor and materials included).
- **Conservation Management:** The AEC developed a Disturbance Protocol to document annual revegetation efforts and implement more effective strategies for ground disturbance projects. The protocol will help Alta track and evaluate its conservation efforts.
- **Ecological Restoration:** Alta established a volunteer program with a local non-profit organization to restore areas within the ski area that have high visual impact and are in need of greater native vegetation restoration efforts.
- **Energy & Renewable Energy Audits:** With the help of Brendle Group, Alta received its first comprehensive assessments of electricity, fuel, and natural gas use, along with an assessment of renewable energy feasibility. Alta will utilize the assessments and realize a return on this investment by implementing one to two projects a year.
- **Sustainability Internships:** This season marked Alta's first two internships focusing on Environmental Education and Environmental Science. Both project-based internships proved to be highly successful and Alta hopes to continue its internship program as opportunities within Alta and with ambitious students arise.
- **Recycling:** This season employees tackled the constant battle of waste management by initiating a Volunteer Waste Officer Program and joining different programs to recycle chip bags, candy wrappers, and corks.
- **Earth Day:** This year AEC joined forces with local organizations to hold its first Earth Day fair. Activities included ski equipment recycle drop-offs, an environmental volunteer and job fair, children's activities, naturalist snowshoe and ski tours, an ecofriendly vendor show, and evening festivities with the whole community.
- **2010 Sustainable Slopes Grants:** Using grant funds from its 2010 Sustainable Slopes award, Alta has installed a power metering system and created an interpretive sign on trail and restoration efforts.



- 2011 Sustainability Goals: To keep Alta progressing the AEC develops annual goals, which are as follows for 2011:
 1. Create an Employee Computer Carbon Footprint baseline using the Alta Commute Program.
 2. When replacing heating and electrical equipment, evaluate alternatives and strive to replace them with high energy efficient and eco-friendly upgrades to decrease our carbon footprint.
 3. Challenge ourselves and Alta Ski Area employees to increase our environmental awareness and stewardship by volunteering 500 hours to local environmental efforts.

Arapahoe Basin, Colorado

2011 Sustainable Slopes Grant Winner

Arapahoe Basin is proud of its environmental record and strives to be a leader on the environmental front. Our most important sustainability initiatives include: kitchen composting, recycling (implemented employee recycling policy), use of reusable and compostable tableware and cutlery, employee guidelines to decrease energy consumption and increase landfill diversion (Energy Usage Guidelines, Waste Reduction Guidelines and Purchasing Guidelines), we adopted NSAA's Idling Policy, we offer lift ticket discounts to carpoolers or public transportation users, continued use of airless snowmaking system, we created Ace's Wild Adventure/Gracie's Grove which features stations that introduce guests to the bio-diversity of Arapahoe Basin's mountain environment and we support local environmental organizations through matched employee donations as well as sponsoring an event and a club that benefit our local conservation center.



Arapahoe Basin has joined NSAA's Climate Challenge for the upcoming season. We hope to get a realistic GHG inventory and take steps to reduce our carbon footprint. We also hope to take our composting program to the next level and include our guests' food waste at Black Mountain Lodge.

Bear Valley Resorts, California

Bear Valley Mountain, Lodge and Commercial Center now offset 100% of its electricity use by purchasing renewable energy certificates. This program is monitored and certified clean by "Green-e" the leading independent consumer protection program for the sale of renewable energy.

Recent completion of lighting and refrigeration upgrades throughout the Resort complex has reduced energy consumption by over 12%, subsequently removing over 35 tons of CO₂ emissions annually.

With the acceptance of "mixed recyclable" at the regional recycling center, Bear Valley has double its recycling containers and has simplified the process for both the employees and guests. Increasing the ease and convenience of recycling continues to reduce landfill contributions.

Resort employees distribute \$2,000 annually through the employee funded and company matched contributions to the NorCal Foothills Conservancy. These funds are earmarked to support restoration and protection of the upper Mokelumne River natural resources, recreation and river access.



Bear Valley strives continuously to improve its environmental performance by quantifying and measuring the results to the best of its ability.

Beaver Creek Resort, Colorado

Beaver Creek Resort continued to implement new sustainability initiatives during the '10/'11 season, while continuing with our ongoing efforts to reduce, reuse, and recycle. This season saw Beaver Creek's first composting effort at our on-mountain restaurants – we started a test project at Beano's and hope to expand to more facilities in the coming season.

We continue to strive to find new ways to divert/recycle as much of our waste as possible. This past season we were able to divert nearly one half million pounds of material through our recycling efforts. Our Idlewise program, which encourages limiting vehicle idle times, has once again proven effective and helped create a decline in the use of unleaded fuel.

One of our top focus areas again this year was energy conservation. Over the last three years, Beaver Creek has reduced our electricity use by 9.15% and our natural gas use by 19.67 %. We are proud of that achievement and continue to look for new ways to conserve resources.

At Beaver Creek, we remain committed to environmental stewardship and sustainable practices. We always look for new and innovative ways to improve our existing efforts, and for new ideas that will help us continue to be a leader in sustainability.

Beaver Valley Ski Club, Ontario, Canada 2011 Sustainable Slopes Grant Winner

In our first season of endorsing the Sustainable Slopes Charter, Beaver Valley Ski Club moved further along the path to a sustainable future. On the hill, we upgraded two of our older (1996 and 2000) Bombardier BR 275 snowcats to a 2008 Prinoth BR350 Bison and a 2008 BR350 Sherpa Winch. Since introducing the first 2008 Bison to the Club in the 2008-09 season we have seen a significant decrease in fuel consumption and grooming hours, therefore we expect even further reductions with our two cat upgrades on the hill. In the kitchen we replaced all disposable pop, juice, beer and wine cups with re-usable plastic cups and glasses. In the clubhouse, we began to usher in our new composting program by installing 6 waste sorting receptacles that are made of 100% recycled plastic and our compost container will be installed in the summer of 2011. In the office, we shifted to paper-less member directories and paper-less online waivers. Due to interest and positive feedback, we hosted our 2nd Spring Staff Sustainability Workshop to engage and educate 30 of our core employees on the science and strategy of sustainability. We are currently working on renewable energy solutions and on sharing our commitment to a sustainable future with our membership, guests, colleagues, community and the public. Lastly, we are very excited and honored to be the recipients of the HKD in-kind Snowmaking guns and we look forward to working more with HKD and the NSAA.



Big Sky Resort, Montana

The Big Sky Green Team is going strong with monthly meetings identifying areas of improvements and implementing best practices. This year Big Sky has continued finding energy efficiencies with facility upgrades by replacing windows, doors in Shoshone and for the Mountain Mall, and the construction of a double door, keeping the warmth in and cool air out. Energy efficiency is also achieved with additional light sensors installed around the mountain and improving insulation in roof of employee housing. Big Sky expanded its extensive recycling program by introducing it to staff housing for employees to participate. The newest campaign is to keep batteries from the landfill so the Green Team implemented a program for hotels,



maintenance and mountain operations to have batteries recycled and disposed of properly, so far the team has diverted thousands of batteries from local landfills.

Blue Mountain Resort, Ontario, Canada

Blue Mountain Resort has been involved in a number of ongoing and new environmental programs over the last year. These programs primarily involve:

Waste Management

The resort continues to make efforts in waste reduction, reuse and recycling. A third-party comprehensive waste audit conducted in March 2011 concluded that the resort is currently operating at a 75% diversion rate, an increase from the 69% diversion rate reported in 2006.

Emissions Reduction

The resort ran its 3rd annual Tour de Bleu: Employee Bike Challenge, an 8-week program challenging resort employees to replace their vehicles with bikes wherever possible. In 2010, participants collectively rode 9,894 kilometers by bike, thus avoiding the production of 2.75 tonnes of CO₂. Blue Mountain completed Phase II of the Vehicle Monitoring Technology study which began in 2009. 65 employees participated in Eco-Driver Training workshops in fall 2010. The monitoring technology was then re-deployed to determine if improvements were achieved. Preliminary results indicate that vehicles were driven using eco-driving techniques of accelerating gently, coasting to decelerate, and reducing warm-up times, thus improving overall fuel efficiency by 9.7%. The most significant behavioral change observed in Phase II of the study was a 27% reduction in idling during the first trip of the day on average per vehicle.

Education & Community Outreach

The resort is currently working on an environmental and heritage interpretive signage program for several of the resort's most popular hiking trails. It is hoped that some signage will be developed and installed in summer 2011.

Going forward, the resort will be focusing greater attention on establishing benchmarks for energy and water consumption in an effort to develop more comprehensive conservation programs with tangible reduction targets in 2011-2012.

Breckenridge Ski Resort, Colorado

The most significant new sustainability program at Breckenridge Ski Resort for the 2010/2011 winter season was the diversion of food waste for composting from the kitchens of our mountain dining facilities. The program was a great success, with 52 tons of compostable waste diverted from the landfill during the winter season. Breckenridge's compost program builds on many years of successful waste diversion through recycling in all aspects of our operation.

Like other Vail Resorts mountains, Breckenridge has had significant success with energy conservation. Breckenridge's electricity use was down 11.28% and natural gas use was down 13.57% through the winter season when compared to the same period three years earlier. We continue to focus on efficiency improvements, particularly in our snowmaking system.

Canyons, Utah

Canyons supports the development of renewable resources in the U.S. by purchasing approximately 20% of its total energy as renewable wind energy from Rocky Mountain Power through its Blue Sky Program. This is equivalent to 282 blocks of Blue Sky Energy. Purchasing one block of Blue Sky energy over one year is equivalent to offsetting more than a ton of carbon monoxide emissions.

- Canyons continues to use B20 Biodiesel mix in all of the tracked diesel vehicles.
- Expansion of recycling of on mountain ELC, or extended life coolant.
- All paper collateral is printed on 70lb Natural Web Gloss (FSC stock with 10% recycled content).
- Techno Alpin – Lowers overall horsepower use for fan guns. The guns are controlled remotely, eliminating the need to waste fuel traveling on the mountain.
- New Mid Mountain Booster Pumphouse allows the ability to pump more water with less energy. Zero Waste goal for pump house.
- Installation of heater controls in the Operator Shacks and Lift Canopies and Snowmaking Facilities. Snow making upgrades were also completed on Doc's Run.

Canyons has also adopted a No Idling policy on resort property; committed to NSAA's Climate Challenge; renewed its commitment to community conservation by financially supporting Recycle Utah; and Canyon's Farm Restaurant touts a "farm to table" concept, purchasing local beef and produce.

Our challenges continue to be waste management. How can we reduce our waste and how can we transport recycling for our guests?

Colorado Ski Country USA, Colorado

Colorado Ski Country USA (CSCUSA) resorts make it their duty to be good stewards of the environment, and are implementing new means of generating and conserving energy and sourcing more sustainable ways of snowmaking. Here is a summary of member resorts' progress.

While Colorado resorts are long-standing proponents and users of alternative energy, many resorts are adopting new wind and solar energy sources to power their on and off-mountain operations while always exploring new forms of alternative energy and energy efficiencies. Examples include: Winter Park has a small wind turbine at the top of Parsenn Bowl that provides power to the lift shack; Copper Mountain harnesses solar power with photovoltaic panels that line the south-facing roof of the Transportation Center in the Alpine Lot; Aspen/Snowmass has explored alternative energy using spring runoff by installing a 115kW micro-Hydro plant at Snowmass that produces power from melting snow; and Wolf Creek



currently purchases 100 percent of its power usage from a green power supplier. At Crested Butte Mountain Resort, relocating the park and pipe area to a new location that requires less energy to pump water and air helped cut down on energy use.

Many CSCUSA resorts have developed land management programs that protect vegetation from snow making/contouring equipment and maintain maximum vegetation cover. Some examples include Sunlight's vegetation management program that balances maximum forest cover with safe and varied terrain; and Telluride is also working on a vegetation cover analysis to increase on-mountain vegetation while maximizing space on the slopes.

Nearly all of CSCUSA's resorts have recycling and re-use programs in place that reduce waste and increase awareness of the environment. Arapahoe Basin composts in the kitchens of both restaurants, at all after-hour events, and with its Snowsports School lunch program. Monarch Mountain recycles everything possible at the resort, from office materials to food and beverage utensils and also re-processes used oil and grease for re-use. The Fleet Maintenance at Powderhorn installed a used-oil burner to reduce propane use and eliminate sending waste oil to third parties for disposal, they also give old rental skis to a local carpenter who uses them to manufacture deck chairs and benches.

Silverton Mountain's base lodge was donated by the town of Silverton, the equipment facility is run out of a used school bus, the mountain's only lift was purchased from a resort in California, and all mountain vehicles, radios, furnishings, carpeting, bar equipment, ski patrol toboggans, and ropes were donated as well.

Steamboat's award winning Zero Waste Initiative utilizes composting, in addition to recycling and reusing. All mountain restaurants and outlets use biodegradable and compostable products wherever available and eliminate trash by utilizing reusable plates and silverware.

By using more efficient snowmaking machines, as new snowmaking and upgrades to existing snowmaking are brought online, many CSCUSA resorts are saving rather than spending energy when it comes to making snow and slope maintenance. At Arapahoe Basin, an airless snowmaking system requires 20 percent less energy than traditional equipment, and Eldora continues to improve the efficiency of its snowmaking system, therefore lowering its energy demand. Purgatory at Durango Mountain Resort has begun using a dirt-based halfpipe and terrain park to reduce the amount of snowmaking necessary in the winter.

CSCUSA resorts are leading the way in protecting one of Colorado ski industry's most valuable assets for future generations of outdoor enthusiasts.

Crested Butte Mountain Resort, Colorado

Crested Butte Mountain Resort (CBMR) is a charter member of the Colorado Industrial Energy Challenge (CIEC) and has publicly set the goal to reduce its overall Mountain Operation energy consumption by 2% per year. In July 2011, Crested Butte Mountain Resort will be one of five large industrial businesses in Colorado awarded the Excellence in Energy Efficiency by Governor Hickenlooper. CBMR is proud to represent the Colorado ski industry as a leader in reducing our energy use and carbon output for a sustainable future in the resort industry.

Since 2008, through efficient conservation and smart management CBMR has reduced its total energy use by 18.9%. A breakdown of reductions by energy sector; electrical use by 17.2%, fuels by 22.3%, natural gas consumption by 32.1% and pumped 8.3% less water; well exceeding our expected goals. Part of this reduction resulted from relocating our park and pipe



area to a new location that requires less energy to pump water and air. The additional reduction resulted from an investment in new Low Energy HKD snow guns that were awarded to CBMR as part of the 2010 Sustainable Slopes program. Snowmakers also decreased energy use when temperatures are below 15 degrees by shutting off compressed air on our snowmaking towers and just running water, saving large amounts of energy. CBMR also utilizes a sophisticated tracking system for peak energy demand loads, thus avoiding large electrical utility costs for snowmaking and lifts.

Deer Valley Resort, Utah

The Deer Valley staff is the resort's greatest asset and their commitment to environmental sustainability is the key to a green Deer Valley. The resort is focused on providing staff the tools and training to complete their jobs in an environmentally responsible way and encouraging staff to reduce, reuse, recycle and rethink. Below are recent examples in which the Deer Valley staff has been successful in these four areas.

Reduce

Source reduction conserves resources and reduces pollution, including greenhouse gases that contribute to climate change.

- Deer Valley provides its employees with three complimentary busses daily in the winter season. Service includes round trips between Salt Lake City, Provo, Heber City, employee housing and the resort's three day lodges
- 100% of press kits are completely electronic and posted on our website. Media groups receive USB flash drives. This saves an estimated 84,000 sheets of paper each year. We have also reduced the number of vacation planners printed by 88%
- 100% of off-road diesel vehicles including snowcats, snow removal equipment, lawn and garden equipment and on-mountain heavy equipment run on bio-diesel. We also run our ski lift diesel auxiliary power units on bio-diesel
- 100% of resort lift heaters have been modified, saving 1,803,540 kWh/yr Snowmaking pumping and air gun retrofits save 640,000 kWh/yr 80% of resort incandescent light bulbs have been changed to compact florescent technology
- Renewable Energy Credits (REC) have been purchased to offset 10% of the resort's power usage. In addition, Deer Valley has run, in cooperation with Rocky Mountain Power, a resort-wide energy audit. The audit included all resort chairlifts, snowmaking facility and day lodges which allowed us to research where and how the resort can save energy
- 75% of resort hot water systems have been retrofitted to high efficiency equipment.
- 95% of Deer Valley's facilities have been retrofitted with low-flow faucets and toilets

Reuse

Reusing items decreases waste dramatically. Ultimately, fewer materials will be manufactured, recycled or sent to landfills.

- On-mountain snowmaking lakes hold 20 million gallons of water. This water is used for snowmaking during the winter months, converting storage water from a liquid state to frozen snow. During spring melt-off the water returns to the snowmaking lakes for future use
- We use non-disposable glassware in all employee dining rooms which reduced the use of disposable cups by 23,000 each year
- An estimated 70% of the total amount spent on paper products at the resort is spent on products containing recycled content. This includes 100% of hand towels, tissues and



toilet paper used in our day lodges, 100% of disposable restaurant napkins which are also printed with soy based inks and 90% of resort collateral

- Deer Valley continues to reuse 28 year old decking from the Silver Lake Lodge to rebuild the stairs in our parking lots, small railing projects, construct picnic tables and replace or repair old racks
- Old canopy frame and symphony tent fabric was utilized to build NDT booth for Non Destructive Testing of ski lift components

Recycle

Recycling decreases emissions of greenhouse gases, conserves natural resources and helps sustain the environment for future generations.

- Deer Valley is firmly committed to recycling. Materials are gathered from all lodge operations, on-mountain recycle bins and recycling efforts at all of our summer and winter events. This includes over 35 summer concerts and FIS ski competitions. Resort staff at each lodge sort recyclable materials and then are taken to Recycle Utah. Recycle Utah estimates that because of the sorted delivery of materials, over 95% of materials brought to the center are recycled. This is a higher percentage than materials delivered from general collection bins
- Deer Valley recycles or reuses aluminum, antifreeze, batteries, brass, cardboard, copper, e-waste including toner, glass, light bulbs, metal, oil filters, paint, paper, plastic, rubber, stainless steel, steel and wooden pallets. During the 2009 - 2010 season, 30% of waste from the resort's three lodges and 67% of waste for the resort's maintenance facility was diverted from landfills
- The dock at Silver Lake Lodge underwent a \$25,000 expansion in large part to better accommodate the lodge's recycling efforts

Rethink

Changing the way we approach operations to more positively affect our environment.

- Deer Valley Green Team is a committee made up of Deer Valley staff and the goal is to instill a culture of environmental sustainability. The Green Team is tasked with providing staff the tools and training to complete their jobs in an environmentally responsible way while encouraging staff to reduce, reuse, recycle and rethink.
- The development of the environmental internship position allows an intern student to share their knowledge of sustainability and help develop programs at the resort
- Deer Valley uses Aspen Press in SLC, an official 'green' printer
- Programs in the Deer Valley Children's Center educate students about the environment and sustainability. Children are encouraged to recycle and reuse materials and the programs aid in teaching children the importance of taking care of the environment
- During the 2009-2010 year all back-of-house food waste, excluding raw proteins, from our base lodge was saved to feed hogs. This diverted 73,563 pounds in food waste from landfills
- Washable linens are used at events unless another material is requested. All linens including chef uniforms are washed in an environmentally friendly detergent by our contracted laundry facility which is a member of the laundry Environmental Stewardship Program
- Deer Valley tests its runoff water in two different locations at the resort. The resort tests for "total suspended solids" as well as phosphates, nitrogen and three other chemicals and minerals. The water that runs off the resort is actually cleaner now than before the resort opened.



Dining

The Deer Valley chefs continue to source local and sustainable food items. Not only does this support the local economy, but we are reducing the miles required to deliver our food. Guests and staff reap the benefits of fresh products.

- Coffee served is 100% certified fair trade
- Deer Valley proudly uses Amano Artisan Chocolate, founded by Art Pollard. The chocolate is made in small batches, with traditional machinery, with careful attention to flavor development right here in Utah. Since Amano is concerned only with the highest quality cocoa beans, Amano always pays farmers and co-ops significantly more for their product than is set by fair trade organizations
- Copper Moose Farm, a local Park City producer, supplies the kitchens with certified organic fresh herbs, lettuce and flowers. The farm has also approached us to take our freshly shucked oyster shells to grind up for the birds
- Our chefs check the Monterey Bay Aquarium website daily to ensure that Deer Valley is purchasing sustainable fish products; 98% of our seafood products are sustainable. At this time we are working with vendors to source a sustainable Shrimp product
- Each Tuesday night at the Seafood Buffet, 1% of food proceeds will be donated to the Monterey Bay Aquarium making the resort an Ocean Advocate Member
- The Royal Street Café is featuring a new version of spaghetti and meatballs using Rockhill Gouda Cheese. For the past few years, the Deer Valley kitchens have been on numerous field trips to the Rockhill Creamery. Located in Richmond, Utah, the Rockhill Creamery is owned and operated by Pete Schropp and Jennifer Hines. Jennifer and Pete choose not to use any artificial growth hormones on their cows and feed only the finest alfalfa, some rolled corn and barley and all the grass the cows want ... when it's not covered with snow! The Schropp's are firm believers in using natural, sustainable practices that will leave their farm better than they found it. They firmly acknowledge that animals deserve not only humane treatment, but also our respect. The chefs are lucky enough to learn from Pete and Jennifer on how to make great cheeses as well as tour the facility and meet their six cows
- Approximately 90% of all red meat served at Deer Valley is from Niman Ranch. For over 30 years, Niman Ranch has been at the forefront of supporting sustainable agriculture, animal welfare and U.S. family farmers and ranchers. Today, the Niman Ranch network has grown to include over 650 independent American farmers and ranchers that all share Niman Ranch's dedication to strict protocols and the belief that all natural, humane and sustainable methods produce great flavor. The Royal Street Café and all Resort day lodges are now featuring a Niman Ranch all natural burger. Deer Valley's Charcuterie features Niman Ranch Pork. This includes house-made bratwurst served in our Grocery ~ Café and our 3 day lodge restaurants. Our chefs had the opportunity to visit a Niman sheep farm in Bear Lake. All of our fire roasted legs of lamb at Fireside Dining come from this farm
- All resort restaurants as well as our banquet operations offer selections of Beehive Cheese, made from only first class grade whole milk from Jersey cows at Ogden's Wadeland South Dairy; 350 acres near the salty marshes, ponds and mudflats of the mineral-loaded Great Salt Lake
- Juice, iced tea, coffee and water are served in pitchers and most condiments are served in bulk. Over 90% of our food service items are reusable including flatware and china. Evening restaurants also use non-disposable linens that are laundered with eco-friendly detergent. Our contracted laundry facility is a member of the laundry Environmental Stewardship Program



- Kitchen staff is trained to understand and implement, where possible, environmental care. We have taken initiatives in our kitchens to reduce running water (i.e. to thaw food, rinse food, etc) and our kitchens have a policy in place to reduce and reuse where possible and appropriate.

Heavenly Mountain Resort, Nevada

In 2010/2011 Heavenly opened a new mid-mountain lodge known as the Tamarack Lodge. The 500-seat lodge was planned as a LEED-certified building and is presently going through the LEED certification that will be completed early this summer.

Heavenly's Boulder Lodge once again served as the host site for the Compost-Your Combustibles program where community neighbors recycle their pine needles and other woody debris in order to reduce wildfire risk. Approximately 456 tons of slash, yard wastes and pine needles were diverted from the waste stream and landfills. The slash was chipped into wood chips. Most of the material was utilized later in the summer for erosion control and soil amendment on Heavenly Mountain Resort.

Heavenly continued to participate in and help fund with resort staff expertise services a native seed research project that is being led by the USDA Forest Service. The three-year project is conducting field research in order to identify and locate optimal revegetation seed sources and growing conditions using locally-collected native seed at ski areas.

Holiday Valley Resort, New York

Holiday Valley has several programs in place to help reduce, reuse and recycle. Highlights include a Single Stream Recycling program throughout the resort (offices, cafeterias, lodging facilities, food and beverage facilities). The importance of the program was emphasized to the staff for the 2010-11 season and the result was an increase of recyclable material sent to the Recycling Center from 60 cubic yards in 2009-10 to 150 cubic yards in 2010-11, a 150% increase. The amount of recycled cardboard went from 38 bales in 2009-10 to 43 bales in 2010-11, a 13% increase.

Snowmaking efficiency was improved for 2010-11 by replacing 6,000 feet of 4" and 5" water lines with 6" lines. The higher volume in the 6" lines reduces energy loss due to friction. Low energy HKD snowguns were purchased for the trails that were expanded at the installation of the new Morning Star High Speed Quad.

100 percent of oils and lubricants used in the maintenance facility are recycled. 450 gallons of used oil heats 30% of the maintenance facility during the winter.

Our Park crew has used old lift parts, pool filters and random discarded "stuff" to create unique features in the terrain parks.

All glass containers from the front and back of the house at John Harvard's Brew House are separated and recycled.

Heat for the 2 spas at the Tamarack Club is taken from circulating pool water, allowing us the efficiency of having only one boiler.

During the construction of our Sky High Aerial Adventure Park in spring 2011, chips and logs from the culled trees were used to make the pathways.





Jackson Hole Mountain Resort, Wyoming
2011 Golden Eagle Award Winner

Jackson Hole Mountain Resort (JHMR) has developed an ISO 14001 registered Environmental Management System (EMS) and maintained that program under rigorous external review by KPMG for over 5 years. Under the ISO 14001 EMS, each department must submit annual goals to the JHMR Environmental Coordinator and report progress on previous goals. The goals must fulfill Sustainable Slopes commitments. Examples of a few projects that fulfill these commitments are listed at <http://www.jacksonhole.com/jackson-hole-mountain-resorts-commitment-to-sustainable-slopes>. Partnering with the Brendle Group in 2011, JHMR has also implemented a greenhouse gas inventory and management plan.

The food and beverage department has developed Vendor Assessment Scoring, a custom score chart developed to identify and score food providers whose practices and distribution are aligned with JHMR's environmental goals. This score chart highlights the emphasis that food and beverage has placed on sourcing and purchasing sustainable products.

Vehicle Maintenance has modified a Ford Excursion to operate on waste vegetable oil, which recycles 100% of the used oil from all JHMR dining facilities. Plans are also underway to implement the program in other vehicles.

Mountain Facilities has successfully modified a number of building and hardscape heating furnaces, and added "programmable building automation controls" which resulted in a 20% reduction in propane usage.

Keystone Resort, Colorado

In the 2010/2011 Keystone Resort made strong improvements in its environmental programs. This past winter, Keystone made composting available to guests at restaurants both on-mountain and in the base area. Keystone's staff increased materials composted from 54 tons in 2009 to 94 tons in 2010. This effort is highlighted by the Keystone Conference Center, where the diversion rate (materials reused, recycled, or composted) exceeded 80% every month.

The resort installed 17 waterless urinals in the past year, saving an estimated 255,000 gallons of water per year. The snowmaking department upgraded 17 snowmaking guns to low-energy guns.

With a focus on energy reduction, Keystone obtained an impressive 14.92% reduction in natural gas usage. The Keystone Conference Center also installed a building energy management system that controls and reduces the building's energy use during non-peak usage. In addition, the Keystone Lodge and Spa retrofitted windows, reducing heating needs in the winter.

Kirkwood Mountain Resort, California

As an industry, ski resorts are inherently linked to the beauty that surrounds them. Kirkwood embraces this responsibility and places sustainable measures at the forefront of its operating plans. Working closely with the US Forest Service, NSAA and numerous governmental agencies, Kirkwood has implemented a stewardship program that address energy efficiency, waste management, recycling, pollution control, and re-vegetation.

Kirkwood's on-going focus on energy and water conservation has resulted in measurable successes. The resort's energy conservation efforts have resulted in a reduction of over 40% reduction in kWh used by the resort since 2007. Further improvements in our water conservation measures have resulted in a savings of over 50% since 2005. This does not yet



include a recent project to replace 100% of our men's urinals throughout resort owned properties with Sloan waterless urinals.

The Kirkwood valley power plant, which generates all of Kirkwood's power on site, was lost to a fire and is now being rebuilt. Kirkwood Mountain Resort has chosen to divest this operation to a municipal agency that can qualify for additional clean energy grants as a fundamental part of our continued efforts to the greening of Kirkwood. It will have no increase in capacity, but will have world class air quality, generation, switching and distribution technology which will dramatically increase power quality and reliability while reducing particulate emissions by over 70% compared to the old power plant facility. The new facility will be built to be flexible enough to accommodate alternative fuels and future renewable energy options like wind and solar arrangements.

Kirkwood's recycling program continues to refine its operations. These refinements have resulted in diverting over 80 tons of recyclable material, which is 70% of Kirkwood's total waste stream, from being dumped in landfills each season.

The resort has also continued to make significant strides in regards to ecological stewardship in the Kirkwood Valley through wetlands protection, erosion control and re-vegetation projects. The resort's commitment to protect the valley water quality and aquatic resources has continued to grow through programs to control erosion and sedimentation. Water sampling for pH, turbidity and conductivity is done at five different locations along Kirkwood Creek to effectively monitor water quality. Streets are swept twice annually, storm drain systems are vacuumed out, detention basins are maintained, and acres of land have been re-vegetated with native plant species.

In addition to these on-site improvements, the resort's employees, passholders and guests were responsible for purchasing the most Renewable Energy Credits in North America as part of the Bonneville Energy Foundation's Green Tags program for ski areas. Kirkwood also encourages season passholders to participate in the program through the new Ski Green program. Kirkwood continues to expand its pioneering online carpool forum which is responsible for taking over 1,000 cars off the road. The model was so successful it was implemented by multiple ski resorts in the Lake Tahoe region this season.

Kirkwood Lodging continues to participate in funding the National Forest Foundation. Every lodging rental unit fee includes a \$1.00 donation to the NFF. The funds generated go toward funding environmental projects within the Eldorado National Forest.

Mont SUTTON, Quebec, Canada

Since the creation of SUTTON's Conscience Code, in 2006, Mont SUTTON has not stopped adding actions for the sustainable development: water and energy savings, recycling, greenhouse gas emissions reducing, composting...

This year, Mont SUTTON:

- has added a new container for composting and then, has reduced the garbage's volume at the ski station
- has bought new snow guns, which need less energy to produce snow.



- has worked on a plan to preserve the surrounding nature on the mountain. Mont SUTTON is evaluating how to educate skiers and snowboarders about the impact to ski out of boundaries.
- has contributed to the creation of a "Bio-Trousse," a document to bring with you when you go hiking, to discover the biodiversity.

Mountain High Resort, California

Mountain High Resort has worked hard over the last year to reduce the resort's environmental impacts on our surrounding eco system. Mountain High Resort continues to move forward in reducing energy consumption during the snowmaking process along with lowering the amount of waste generated during daily ski area operations.

The snowmaking system was once again upgraded this year by adding both energy efficient snowmaking fan guns and rebuilding older outdated air/water snow guns that reduce the snowmaking systems energy consumption by as much as 60%. The janitorial department this season continued its recycling program for plastic bottles and aluminum cans that greatly reduced the amount of recyclables that were deposited in the local landfill. Finally the ski resort continued to utilize diesel particulate filters on its diesel fired snowmaking equipment that reduce harmful air quality contaminants by 85% or more. The continuation of these programs will benefit both the environment and our guests who recreate in the Angeles National Forest.

Mt. Hood Meadows, Oregon

2011 Sustainable Slopes Grant Winner

At Mt. Hood Meadows, we continue to pick up the low lying fruit, so to speak, with regards to our sustainability efforts. For example, replacing T12 lamps with T8s, increasing waste diversion by recycling and reuse, and espousing conservation in general.



Other exciting endeavors include:

- Installing water fountain/bottle filling stations to encourage use of our spring water deemed H2snow, 'pure mountain spring water from Mt. Hood'.
- We will hold our sixth National Forest Foundation 'Friends of the Forest' event this fall with an emphasis on native seed collection, which will be used in our wetland restoration work within the permit area.
- We will clean up the highway again as part of our Adopt-e-Highway commitment, including the roads leading to our resort from the highway, as well as the parking lots, the slopes, and around buildings.
- NSAA's Climate Challenge was accepted and we are eager to begin the work to determine our carbon boot print.
- As of July 1st, 2011 we are offsetting 100% of our electrical consumption at the resort by purchasing Ski Green Offsets through Bonneville Environmental Foundation, who we also work with to promote offsets to our guests.

We have incorporated sustainability into our company goals, further cementing it in our corporate culture. It has become more prominent in our employee training as well. Our employees and guests are slowly leaning more about our efforts, which we are striving to share without aggrandizing. We are proud of our efforts thus far and acknowledge there is still a long way to go. We are gaining momentum in many areas and are pleased with this yet not content to rest here. Onward!



Northstar-at-Tahoe, California

Over the past year, Northstar-at-Tahoe Resort's environmental programs have included a continued focus on the resort's water quality program and Habitat Management Plan, with specific activities including stream assessments, water quality monitoring, revegetation and erosion control monitoring, and invasive plant management.

The resort also implemented a new cardboard recycling program on the mountain that resulted in a reduction of trash dumpsters required each week, and diverted 19% of the waste generated on the mountain from the landfill. And, through the use of Northstar Resort's in-resort shuttle system, the resort successfully reduced customer vehicle miles traveled on-site, resulting in a Greenhouse Gas reduction of 106.15 metric tons.

In addition to these initiatives, Northstar-at-Tahoe Resort received a National Fire Plan Grant from the USDA Forest Service through the California Fire Safe Council for the Northstar Forest Fuels Reduction Project. The project includes 208.5 acres of Northstar owned forestland adjacent US Forest Service lands and residential subdivisions. The resort treated 46.7 acres during the summer 2010 season and intends to treat the remaining 161.8 acres during the summer 2011 season.

Further to these programs, Northstar Resort will continue to evaluate and update the techniques it employs for water quality management and revegetation efforts to determine what works best in our mountain environment.

Schweitzer Mountain Resort, Idaho

During 2010/11, the resort recycled 19,000 pounds of cardboard, 6,600 pounds of paper, 318 pounds of aluminum, and 840 pounds of plastic. Schweitzer Mountain also continued its employee/guest education program, emphasizing ways and measures to reduce electric and gas consumption.

During the 2010/2011 season, the resort provided transportation for over 58,000 riders, saving 522,000 vehicle miles travelled. Schweitzer Mountain also continued to convert to more environmentally friendly products throughout the resort. Schweitzer Mountain continued out environmentally friendly purchasing program and purchased the following compostable products for the 2010/11 season: hot beverage containers, fry containers, 10-inch paper plates, cold cups for coffee shops, recycle can liners, and retail shopping bags.

Shawnee Peak, Maine

Here at Shawnee Peak we have taken many steps over the years to reduce our carbon footprint, become more efficient, and limit the resources we use while maintaining and even increasing our product. Specific items from 2011 are as followed:

- New high efficiency snow guns.
- Partner with LELT to conserve land and protect rare Red Pines.
- Offset 800 tons of carbon through planting of trees.
- Built our new "North Ridge" Yurt, an environmentally friendly way to camp and enjoy the outdoors.
- No use of fossil fuels, use only green products, minimal impact on environment.
- Changed over to energy efficient florescent bulbs in our rental property.



Spirit Mountain, Minnesota

Our Sustainability Program continues to take shape. We're increasing the level of involvement and education of our staff, and we're finding more ways to be efficient with energy and water. We've spent time remodeling our existing facilities to insulate them against the elements, use fewer resources, and reduce the amount of waste that's generated, and plans for new buildings include standards of high-efficiency. Our recycle and food compost programs are continuing to prosper, and with every month we gain a few more footholds. Our search for alternative energy sources for our facility continue, for both buildings and lifts. With the addition of our alpine coaster, the Timber Twister, we've introduced an exciting, yet environmentally sensitive attraction to the Midwest. Our Sprung Building, which houses concessions and tickets for the coaster, was designed specifically for energy efficiency and contains up-to-date lighting, HVAC, and construction. That all being said, we realize that we have a long and ever-evolving journey ahead of us, and we look forward to the future, its challenges, and potential for success.

Squaw Valley USA, California

This season, Squaw Valley continued to work tirelessly to protect and preserve the resort's mountain environment. Squaw Valley further improved the efficiency of the resort's snowmaking department this year by purchasing 38 new B3 snow guns and installing 2,000 feet of new ductile piping prior to the 2010-11 winter season. The new B3 guns are 100% more efficient than the York 40 snow guns that they replaced, and the new piping serves to increase the amount of snow produced while decreasing energy consumption. Squaw Valley also continued to improve the efficiency of the Gold Coast Incinerator that burns food and restaurant waste conserving significant fossil fuels that would otherwise be needed to transport the waste to landfills. Finally, Squaw Valley conserved a substantial amount of energy by running the Olympic Ice Pavilion during only the early-season winter months this season and closing the rink when air temperatures warmed come March and April. Looking forward, as the resort continues to evolve under new ownership, Squaw Valley will continue to improve the resort's snowmaking efficiency with an additional \$150K investment in new snowmaking guns and new water and air pipelines. Further, the resort will continue to go above and beyond national, state and regional environmental standards in all building and construction projects.

Steamboat Ski & Resort Corp., Colorado

The Steamboat Ski & Resort Corporation is focused on continuing to set a high standard for resort environmental programs and provide responsible stewardship of the public and private lands on which the resort operation resides. Over the past year, the resort has improved its performance especially in the following four key categories:

- **Sustainability & Zero Waste:** Award-recognized Zero Waste Initiative composted 36,000 gallons of organic waste during the past year, a 58% increase over the inaugural year of the resort's Zero Waste Initiative. The resort experienced a 72% increase in amount of cardboard material and an 85% increase in singlestream recycled over two years ago, while reducing trash by 14% over that same time period. In addition, the resort has moved to utilizing compostable items across all food & beverage outlets.
- **Waste Management-Water Conservation & Energy Reduction:** At its Rendezvous facility alone, 373,050 gallons of water were saved with the instillation of new auto-flush and shut-off features. Snowmaking efficiencies resulted in a 40% improvement in the resort's gallons per kilowatt ratio (2010/11 vs. 2005/06). Forty pallets, nearly 15,000 individual pavers, and 5,000 square feet of decking were recycled during a major base area construction project. The Light Blub Replacement Program generated an estimate \$80,000 in savings by replacing 200 incandescent blubs with compact fluorescents.



Over 20 cubic yards of confidential files as well as 500 computer/electronic devices were recycled. Old uniforms were sent domestically and internationally to be reused. The Base Area team is utilizing a new electric 4x4 Ranger which is not only eco-friendly, but eco-nomical.

- **Community Programs & Outreach:** This summer, resort employees are participating in a new community-wide Bike-to-Work Program; a major Re-Tree Vegetation Project at Howelsen Hill and Steamboat Ski Area; and, the ongoing community-wide Zero Waste Initiative. In addition, the resort has continued its Guided Nature Tours (winter & summer), Interpretive Signage Program and Employee Mountain Clean-Up Day.
- **Environmental Granting:** Steamboat's Environmental Granting Program awarded \$20,000 this past season to programs across the Yampa Valley. This employee committee for the resort has granted nearly \$250,000 in the past 7 years.

The Steamboat Ski & Resort Corporation, along with its employees, is committed to ensuring a sound environmental experience for all who come in contact with the mountain, company and community.

Stevens Pass, Washington 2011 Sustainable Slopes Grant Winner

Stevens Pass has grown from its humble beginnings over 75 years ago to become one of the Northwest's premier resorts, and we reckon that protecting and restoring the natural resources that have provided us our livelihood is the least we can do. We believe we have a responsibility to both the Pacific Northwest environment and regional climate that allow us to conduct business at all, and our mission reflects that. The facts tell us clearly that global warming is real and human-driven, and that tackling it is critical. In 2008, we redoubled our efforts to pursue a sustainable business model by forming a dedicated Environment and Planning Division, and by hiring our first full-time Environment & Sustainability Manager.



For each of the past three years, Stevens Pass has been named one of just three national finalists for the Golden Eagle Award for Overall Environmental Excellence. We are honored to have been selected for the past two years as a NSAA Sustainable Slopes Grant Winner, and this year also won a \$12K grant from the federal Dept of Energy. Last year, we were inducted into the Leadership Club of the EPA's Green Power Partnership for our 100% carbon offset based solely on windpower sources; this year we issued our first Sustainability Report.

This ski season saw some notable program achievements at Stevens:

- 1) The installation of the nation's first public electric vehicle charging stations at a mountain pass; our "Level-II" (240Volt) chargers will allow EV owners from across the region --especially the Seattle test market-- to refuel anytime year-round, while visiting the resort or recreating nearby.
- 2) The tenfold expansion of our pilot food-waste composting initiative into a full-fledged program, using heavy equipment and complex logistics to divert approx 50% (120CuYds) of previously landfilled food waste to a commercial compost facility, all for the same cost as traditional disposal.



3) The completion of a multi-year recycling program expansion with containers now installed in all staff housing and employee facilities, in all lodges and public spaces, in parking lots, and at the top and bottom of all lifts across the ski mountain.

Selected plans for the coming 12 months include:

1) Enhanced implementation of our recent comprehensive third-party energy audit, including mechanical retrofits and provisions to gather more robust automated data on fuel use by our vehicle and grooming fleet, as well as on the consumption of propane for building heat and snow melting.

2) Research and scoping for the launch of a demonstration solar or windpower pilot project at an existing facility up on the mountain.

3) Suitable mitigation for the summer 2011 construction of our new mountain bike park, including removable decking and features, low-impact ground disturbance, and extensive erosion control practices.

4) Increased integration of clean, zero-emission electric vehicles into everyday resort activities, starting with the acquisition of a Polaris Ranger EV, an electric UTV.

Stowe Mountain Resort, Vermont

Stowe Mountain Resort continued its participation with both the Audubon International's Sustainable Destination and Golf Course programs. Both programs require the ongoing implementation of comprehensive environmental management efforts that are then certified by independent inspectors. These include aggressive water quality management both on and off the mountain, incorporation of energy efficient building practices and retrofitting of existing buildings and equipment, promotion of alternative public transportation services, waste reduction including food waste composting, wildlife and plant habitat protection, purchase of locally grown food products, environmental education for resort guests and employees, reuse of stormwater for both snowmaking and golf course irrigation and the use of best management practices for the resort's golf courses. Additionally, in late 2010, the resort constructed an innovative "Green Street" stormwater treatment system along one of its new Spruce Peak development roadways that uses vegetation to treat stormwater.

Sugar Bowl, California

Sugar Bowl places a high value on its natural surrounds and realizes that they are one of our greatest assets. The resort is consistently implementing environmentally sound policies and practices to improve and maintain the quality of the environment.

In 2011, Sugar Bowl Resort was recognized as a business leader by Keep the Sierra Green by demonstrating their efforts to minimize waste, conserve energy and water, and implement pollution prevention measures.

Sugar Bowl has an aggressive conservation program. The resort continues to work with all departments to minimize their contribution to global climate change. They committed to cutting energy consumption by 10% from their 2007/08 baseline to the end of the 2009/10 season. In the first year, the resort reduced electrical consumption by 31% and in the second year, reduced electrical consumption by 18%. This reduction of 1,772,863 kWh over the past two years equates to a reduction in emissions of 1,273 metric tons of CO₂, equal to removing 243 cars from the road for one year. To achieve this goal, Sugar Bowl, has an Environmental and



Conservation committee that meets monthly to review consumption and discuss programs. Sugar Bowl is identifying and funding on an annual basis projects and purchases which significantly reduce consumption and waste.

Continued & Recently Completed Initiatives:

- Purchase 100% renewable energy in Renewable Energy Certificates (RECs) from 3Degrees.
- Diverted over 21% of waste last year by recycling.
- Subsidize a free shuttle from Truckee to Sugar Bowl/Donner Summit
- Provide a free Ride Share board on their web site to support carpooling to the resort
- Sustainable Slopes and Keep Winter Cool Programs
- Preserve wetlands and protect water quality
- Forest Stewardship
- Adopt-a-Highway program
- Habitat protection during development
- Annual Environmental Awareness Day
- Replaced all electronic water coolers with water purifiers in office sinks
- Installed occupancy sensors for lighting in many offices and public areas
- Installed strip curtains in all walk-in refrigeration and at shipping and receiving dock to reduce energy consumption
- Re-commissioned the HVAC system in the Judah Day Lodge to improve efficiency and reduce propane consumption
- Include environmental considerations in purchasing decisions:
 - Purchase 100% green cleaning products.
 - Purchase non-disposable and 100% recycled content or compostable food service products
 - Purchase 30% recycled content office paper.
 - Purchase biodiesel for use in all licensed highway vehicles.
 - To date, have replaced 50% of snowmobile fleet by purchasing 4-stroke snowmobiles to replace 2 stroke snowmobiles on an ongoing basis
 - Have eliminated all tier 0 snow cats by replacing with tier 3.
 - Purchase more efficient fan guns for snowmaking

Sun Valley Resort, Idaho

As a proud supporter of Sustainable Slopes, Sun Valley Resort continues to adopt bigger and better sustainability initiatives. For 2011, Sun Valley's focus returns to the basics - reducing, reusing and recycling. With help from the resort's new "Green Team," our entire environmentally-aware employee group is working hard to improve sustainability across all operations.

One of the most notable differences is the implementation of composting. Over thirty-four tons of food waste from the resort's thirteen restaurants were diverted from the landfill over Winter 2010/11 and composting numbers will increase radically as lawn and tree waste are added to the program this summer. In addition, Sun Valley continues to recycle around one third of all waste, and recycling of the products that touch our guests - drink bottles, brochures, etc. - is consistently on the rise. The sundries donation program incepted in Fall 2010, which donates partially-used shampoos and soaps from our hotel rooms to neighbors in need, is running in full swing and has expanded to support shelters in the Seattle area in addition to Boise, where the program began.



Finally, Sun Valley has committed to further reducing its carbon footprint in 2011. Through major upgrades to its hardest working boilers, with anticipated savings of over 127,000 therms annually, and the replacement of standard toilets with high-efficiency 1.28 gal flush toilets in the Sun Valley Lodge hotel, 2011 will be a year of significant energy and water savings at Sun Valley.

Timberline Lodge, Oregon

Timberline Lodge pursued and received third-party eco-certification this past year, receiving a 3 star rating from Sustainable Travel International. The historic lodge and ski area undertook this intensive sustainability audit by utilizing STI's Sustainable Tourism Eco-certification Program (STEP), considered the gold standard of eco-certifications among accommodations, attractions, and tour operators around the world. Timberline also received a platinum level recognition from the Travel Oregon Forever "Business Challenge," a statewide effort recognizing and quantifying socio-cultural, economic, and environmental sustainability within the Oregon tourism sector. Both programs are aligned with the 37 Global Sustainable Tourism Criteria (GSTC) adopted by the United Nations. Timberline also worked with the Natural Step organization to further implement sustainable business initiatives into their departmental business plans.

Vail Mountain, Colorado

Vail Mountain continues to have the largest on-mountain recycling program in the world, and this diverted nearly 1,000,000 pounds of various materials from the landfill.

We remain committed to our strong energy conservation efforts. Vail Mountain leads the pack with reductions of 13.75% in electricity and 17.91 % in natural gas over the last three years. Adding to our renewable energy efforts, Vail Mountain installed solar air heaters at Belle's Camp in Blue Sky Basin this year. Other projects, such as LED lighting retrofits in the Passport Club parking garage, use 75% less electricity than the existing lamps.

Adding fun to our stewardship efforts, employees can travel on free "Townie" bikes in the summer, which encourages exercise and saves on fuel.

These are just a few examples of the many initiatives and practices that happen daily on Vail Mountain to create a sustainable ski area for years to come.

Vail Resorts

Vail Resorts is committed to significant environmental stewardship efforts and strives to be a leader in sustainability in all areas of our business. Our efforts this past year have focused on energy conservation, waste reduction and forest health.

We continue our quest to reduce our energy consumption by 10% - we've worked diligently to educate our workforce and our guests about conservation measures and have seen great results and hope to come very close to reaching our goal this year.

As a leader in waste reduction efforts, we continue to grow our recycling efforts at each resort, and this year launched several zero-waste pilot projects at on-mountain restaurants.



Our forest health efforts have expanded both on and off our resorts. The Hayman Restoration Project continues in its second year, working to restore 115,000 acres of land destroyed by Colorado's largest wildfire. In addition, through the NFF ski conservation fund, we've supported almost 50 projects in the White River National Forest that will help restore trails, watersheds and other areas of the local forest.

At Vail Resorts, we will continue to strive to be a truly sustainable company – we will continue to look for new ways to take our commitment to the next level.

Waterville Valley, New Hampshire

Waterville Valley added all waterless urinals in base lodge; added 25 additional energy efficient snow guns replacing older inefficient guns; used recycled paper in printing brochures; replaced diesel drive on lift with electric drive eliminating need for 1,000 gal. storage tank; working with town on single stream recycling; planning for new mountain top lodge - off the grid.

Welch Village Resort, Minnesota

Most of our sustainability efforts have been focused on the terrain surrounding the last two quad chairlifts, installed in 2008 and 2010. We have removed trees while leaving stumps and have shredded them in place to preserve the basic soil and root structure.

In addition, we have used matting and other soil retention materials to stabilize and retain grading. So far we have only minor areas where further use of matting is needed. A Minnesota State agency has inspected the area and determined it complies with codes.

WhistlerBlackcomb, British Columbia, Canada

The two key result areas on environmental initiatives at WhistlerBlackcomb for 2011 are focused on energy conservation and nature based tourism.

Through a companywide energy awareness conservation program aligned with increased metering and technology improvements the company's goal is to reduce energy consumption by 5% annually.

We are creating a nature based focus with our summer tourism highlighting to guests how we are being proactive to climate change -declining biodiversity and encouraging enactments on their part.



4.0 CONTRIBUTIONS OF PARTNERING ORGANIZATIONS

NSAA and the endorsing resorts are fortunate to have outside organizations playing a key role in Sustainable Slopes. Our Partnering Organizations were instrumental in the initial development of the Environmental Charter, and continue to provide their expertise and perspectives as the program evolves. Information on all of these Partners is provided on the following pages.

NSAA would like to thank and recognize our partners in Sustainable Slopes – old and new – for their contributions to this important program.

HKD Turbo

Snow Economics, Inc. is a long-standing family run business founded in 1991 by Herman K. Dupre and his son-in-law, Charles N. Santry. The company is based in Natick, Massachusetts, U.S.A. Since inception, Snow Economics, Inc. has installed snowmaking products at more than 420 ski areas around the world. All of the products developed and manufactured by Snow Economics, Inc. utilize energy efficient HKD air / water technology. Some of the countries where HKD Technology is in operation are the U.S.A., Canada, Korea, Japan, China, Austria, Switzerland, France, Italy, Germany, Spain, Sweden, Norway and New Zealand.

Although Snow Economics, Inc. was incorporated more than 15 years ago, HKD Technology was conceived some 20 years prior by Herman K. Dupre. Mr. Dupre, founder of Seven Springs Resort in Western Pennsylvania and inventor of the patented HKD Tower system spent numerous years developing and refining his technology in its practical application, on the mountain. With the HKD Tower System in place, Seven Springs has the unprecedented ability to make snow at the rate of 30,000 gallons per minute using only 26,000 cubic feet per minute of compressed air. With these capacities, the resort is able to blanket 400 skiable acres of terrain with 12 inches of snow in approximately 48 hours. HKD has sponsored the Sustainable Slopes Grant program for the past two years through the donation of 30 SV-10 high efficiency snowmaking guns to deserving resorts.

LeitWind

LeitWind is part of LEITNER TECHNOLOGIES group, a name which has been a synonym for high performance technology of ropeways and snow groomers since 1888. LEITNER TECHNOLOGIES employs more than 2030 people worldwide at its plants in Italy, Austria, France, India and North America, as well as in 70 sales and service points. Since 2000, continuous research and development coupled with a high degree of technological competence have enabled LEITWIND to take advantage of synergies between the ropeway and the wind turbines technologies. The resulting turbine is an integration of a direct drive generator into a wind turbine. In 2003, Leitner produced and installed its first wind turbine prototypes that incorporated this revolutionary technology. Starting in 2007, Leitwind began serial production of wind turbines. For the engineers, the search for quality and simplicity is a primary objective in all of the group's businesses. Since the company's inception, LEITNER Technologies' success is based on quality and leading edge technology.



Renewable Choice Energy

Based in Boulder, Colorado, **Renewable Choice** has helped clients become leaders in their industry by supporting sustainability initiatives that increase transparency, reduce risk, lower costs, leverage competitive advantages and improve stakeholder relations. Renewable Choice's experienced team of professionals provide service in areas of carbon accounting and disclosure, supply chain sustainability assessments and scorecard programs, energy audits, renewable energy and carbon offsets and strategic planning. Renewable Choice provides renewable energy credits (RECS) to NSAA and many ski areas across the country.

Natural Resources Defense Council

The **NRDC** is a national, non-profit organization of scientists, lawyers and environmental specialists dedicated to protecting public health and the environment. Founded in 1970, NRDC has more than 1.3 million members and e-activists nationwide. NRDC began partnering with the ski industry on Keep Winter Cool in 2003. Together, NSAA and NRDC have lobbied Congress on mandatory caps on CO₂ emissions, educated guests and the public about solutions to global warming, provided training to resorts on communicating on the topic of global warming and helped raise the visibility of the issue. NRDC contributes to the Sustainable Slopes Grant Program and is a judge for the Golden Eagle Awards.

CLIF Bar & Co.

Based in Berkeley, Calif., **CLIF Bar & Co.** is a leading maker of all-natural and organic energy and nutrition foods committed to sustainability from the field to the final product. The company has received local, state, and national awards for its environmental efforts, including multiple initiatives to combat and educate the public about global warming. Learn more at <http://www.CLIFbar.com/environment>. CLIF Bar has partnered with NSAA in Keep Winter Cool since 2004 and helps judge the Golden Eagle Awards.

* * *



NSAA would also like to recognize the Partnering Organizations that have helped us advance the Sustainable Slopes Program at some time over the past decade. These Partnering Organizations include:

Board of Teton County Commissioners

Bonneville Environmental Foundation

Colorado Department of Public Health & Environment

Conservation Law Foundation

Leave No Trace, Inc.

The Mountain Institute

National Fish and Wildlife Foundation

National Park Service

New York State Department of Environmental Conservation

Trust for Public Land

U.S. Department of Energy

U.S. Environmental Protection Agency

U.S. Forest Service

Wildlife Habitat Council



APPENDIX A: 2011 GRANT APPLICATIONS

NATIONAL
SKI AREAS
ASSOCIATION



NSAA Announces 2011 Sustainable Slopes Grant Winners

Funds Stimulate Green Projects and Improve Snowmaking Efficiency at U.S. Ski Areas.

LAKESWOOD, Colo. – April 29, 2011 – The National Ski Areas Association (NSAA) today named six member ski areas as the recipients of its annual Sustainable Slopes Grant program. Grant recipients include Arapahoe Basin, Colorado, Beaver Valley Ski Club in Ontario, Canada, Mt. Hood Meadows, Oregon, Oak Mountain, New York, Stevens Pass Resort, Washington and Stratton Mountain Resort, Vermont.

Of the six grants awarded, four are cash grants for innovative sustainability projects. With funding from the grant program, Arapahoe Basin will implement a lighting retrofit of all of its base area buildings, resulting in an estimated reduction of 53,042 kilowatt hours (kWh) annually and a utility savings of \$4,509. Mt. Hood Meadows will purchase and install water bottle refilling stations in the ski area's highest traffic areas to encourage guests to reduce the use of plastic, disposable water bottles. Stratton will purchase and install four solar compactors to reduce the number of trips necessary to perform waste removal at the resort by 80 percent, in turn reducing the resort's GHG emissions. Stevens Pass will expand on its existing and cutting edge electrical vehicle program by incorporating charging for additional vehicle types including utility runabouts (UTVs) and snowmobiles. These four cash grants were made possible by donations from program sponsors CLIF Bar & Co., a California-based energy bar maker, and the Natural Resources Defense Council (NRDC).

--more--



“These grants are a great vehicle for not only implementing new green projects at U.S. ski areas, but also for sharing best practices as they relate to environmental programs both within and outside our industry,” says NSAA President Michael Berry.

This year, two in-kind high-efficiency snowmaking system grants provided by Massachusetts-based snowmaking equipment manufacturer Snow Economics/HKD Turbo were awarded to Oak Mountain and Beaver Valley. Each ski area will receive five high-efficiency snowmaking guns from Snow Economics/HKD Turbo, a total value of \$40,000.

“HKD is committed to sustainability and we are thrilled to be a part of the Sustainable Slopes Grant Program again this year. We look forward to working with Oak Mountain and Beaver Valley to support their sustainability goals of greater snowmaking efficiency,” says Snow Economics President Charles Santry.

Past winners of the Sustainable Slopes grants included Alta, Utah, Crested Butte, Colo., Grand Targhee, Wyo., Mt. Abram, Maine, and Stevens Pass, Wash. in 2010. Winners in 2009 included Copper Mountain, Colo., Grand Targhee, Wyo., and Vermont’s Sugarbush Resort.

Each of the winning programs will be highlighted in a future issue of the *NSAA Journal*. For more information on NSAA’s Sustainable Slopes Grant program or to learn more about environmental initiatives and projects visit the Environment section of nsaa.org.

The National Ski Areas Association, located in Lakewood, Colo., is a trade association formed in 1962 for ski area owners and operators nationwide

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Application deadline: 5:00 p.m. PST February 12, 2011

Contact Information:

Name of ski area:

Name & Title of person submitting application:

Mailing Address:

Email Address:

Telephone:

Identify which of the 21 Principles of Sustainable Slopes is the subject matter of your initiative?

<input type="checkbox"/> Planning, Design, and Construction	<input type="checkbox"/> Product Re-use
<input type="checkbox"/> Water Use for Snowmaking	<input type="checkbox"/> Recycling
<input type="checkbox"/> Water Use in Facilities	<input type="checkbox"/> Potentially Hazardous Wastes
<input type="checkbox"/> Water Use for Landscaping and Summer Activities	<input type="checkbox"/> Fish and Wildlife Management
<input type="checkbox"/> Water Quality Management	<input type="checkbox"/> Wetlands and Riparian Areas
<input type="checkbox"/> Wastewater Management	<input type="checkbox"/> Forest and Vegetative Management
<input type="checkbox"/> Energy Use for Facilities	<input type="checkbox"/> Air Quality
<input type="checkbox"/> Energy Use for Snowmaking	<input type="checkbox"/> Visual Quality
<input type="checkbox"/> Energy Use for Lifts	<input type="checkbox"/> Transportation
<input type="checkbox"/> Energy Use for Vehicle Fleets	<input type="checkbox"/> Education and Outreach
<input type="checkbox"/> Waste Reduction	

Please note that while multiple applications (up to 3) may be submitted, only one application per Principle is permitted. Only one grant will be awarded per resort.

Size of Ski Area

(Place an X in the box adjacent to the appropriate size description)

# of Annual Skier/Boarder Visits	
<input type="checkbox"/>	500,000+
<input type="checkbox"/>	250,000 – 499,999
<input type="checkbox"/>	100,000 – 249,999
<input type="checkbox"/>	less than 100,000

1. Are you applying for an HKD Turbo in-kind grant for Low-Energy snowmaking equipment? If **yes**, please answer questions a. through h. below. If **no**, please proceed to

Yes No



Question 2.

a. Has your resort conducted a comprehensive energy audit? Yes No

b. What energy conservation measures have already been taken by your resort?

c. Describe your resort's need for Low-Energy snowmaking equipment, including the length and width of the trail and the required annual man made snow depth for the trail on which this in-kind grant will be used. Describe your current snowmaking system (water capacity, air capacity and equipment in use).

d. Has your resort made an investment in the last 5 years in Low-Energy snowmaking equipment? Explain.

e. Does your resort have the resources necessary to install this equipment?

Yes No

f. Does your resort have the resources necessary to invest in more efficient snowmaking equipment if this grant is *not* awarded?

Yes No

g. Please estimate your resort's operational savings should you be awarded this grant. You are encouraged to analyze your current energy use and to utilize and document your own calculations to determine your savings. Operating savings should be calculated by comparing your current snowmaking cost to cover the terrain under consideration with the cost to do the same job using the HKD Low – Energy technology. You may wish to visit the



HKD Turbo' website and use their energy calculator found at http://www.hkdsnowmakers.com/hkd_energy_analysis.asp . This calculator asks for some basic assumptions about your system, terrain to be covered and energy costs. It then uses this information to estimate energy savings realized by using HKD SV10 towers. There are some fixed assumptions relating to temperatures and the performance of your existing equipment that may not be accurate for our resort. We encourage you to run your own calculations and document your energy costs and other costs that affect your payback.

h. How might you apply or reinvest the savings from this project? Is there a sustainability project that you could fund and implement with the energy cost savings afforded by this efficient snowmaking equipment?

-What is the project?

-What are the environmental benefits of the project?

-What is the total cost of the project?

2. Summary: In 300 words or less, please summarize the environmental project, activity or program for which you seek funding and its objectives.



Please note that summaries of more than 300 words will not be accepted.

Application of Funds: How would the grant funding be applied to the initiative (please identify the amount of grant money that you are seeking and the total cost of your project)?

Selection Criteria: Please reply to the following questions, limiting yourself to 50 words or less per reply.

Does your initiative:

- Demonstrate innovation in improving sustainability?

- Raise environmental awareness?

- Promote concrete environmental actions?

- Promote the goals of Keep Winter Cool?

- Have a high likelihood of success (and the necessary expertise and experience to achieve stated goals)?



- Have the ability to be replicated by others in the ski industry?

- Involve other partners, sponsors or underwriters?

- Rely on this grant money for implementation?

Accomplishments: What are the expected results of the initiative?

Measuring Success: Please quantify the program’s expected results using either a percentage or absolute value (e.g. 20% reduction in energy consumption or 500 tons of CO2 saved) or both if possible.

Climate Challenge: Has the resort applied to the Climate Challenge and will this project help meet goals set for the Climate Challenge?

References: List the name, email address and phone number of at least three references familiar with your initiative.

Name	Email Address	Phone Number



APPENDIX B: 2011 GOLDEN EAGLE AWARD WINNERS

Ski Area Eco-Efforts Hailed with Annual Golden Eagle Awards

Grand Targhee, Jackson Hole and Park City Capture Top Ski Industry Honors.

LAKEWOOD, COLO. – May 5, 2011 – Today the National Ski Areas Association (NSAA) honored three ski areas, including Wyoming’s Grand Targhee and Jackson Hole, and Park City, Utah, with the 2011 Golden Eagle Awards for Environmental Excellence. Established in 1993, the Golden Eagle Awards are the ski industry’s most prestigious award for recognizing resort environmental programs and projects. This year’s Golden Eagle Awards were awarded to ski areas of three size categories: Up to 200,000 skier and snowboarder visits; 200,000 to 500,000 visits; and 500,000 or more visits.

As part of its efforts, **Grand Targhee**, the winner in the small ski area category, not only met, but exceeded its goal set in 2010 to of reduce its energy use by 10 percent below the previous five year average. By season’s end, Targhee achieved an 18 percent reduction in electricity use, which marked the lowest electricity use at the resort in a decade. The ski area accomplished this reduction through equipment upgrades and retrofits, building weatherization, improved operating procedures and policies and most importantly, behavioral change. **Jackson Hole** took the top environmental honors in the medium sized ski area category for implementation of its ISO 14001 registered Environmental Management System (EMS) over the past five years. The EMS provides for integration of all departments to reach overall resort sustainability goals; promotes continuous annual improvement; and involves monitoring, reporting and external verification to international standards. Finally, **Park City** won the Golden Eagle Award in the large resort category for its efforts in reducing the ski area’s carbon footprint. In the 2010/11 season, Park City reduced its carbon footprint by a whopping 54.8 percent, equivalent to taking 7,112 cars off the road for one year or the electricity used by 4,514 homes in one year.

Judges for this year’s Golden Eagle Awards include: Rod Judd, International Mountain Bicycling Association; Judy Dorsey, Brendle Group; Elysa Hammond, CLIF Bar & Company; Geraldine Link, NSAA; Loren Kroenke, USDA Forest Service; Greg Owsley, New Belgium Brewing Company; and Kirk Mills, Colorado Department of Public Health & Environment (CDPHE).

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THE NATIONAL SKI AREAS ASSOCIATION, LOCATED IN LAKEWOOD, COLO., IS A TRADE ASSOCIATION FORMED IN 1962 FOR SKI AREA OWNERS AND OPERATORS NATIONWIDE.