

CLIMATE CHALLENGE 2018 ANNUAL REPORT



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NSAA

Acknowledgements

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NSAA recognizes the following participants in the Climate Challenge. Their leadership paves the way for others to inventory, target and reduce their carbon footprints:

NSAA invites all ski areas to consider joining the Climate Challenge. For more information, visit www.nsaa.org and click on Environment.

- Alpine Meadows*
- Alta Ski Area
- Arapahoe Basin
- Aspen Highlands
- Aspen Mountain
- *Bear Valley*
- Beaver Valley Ski Club
- *Blue Mountain, PA*
- *Blue Mountain, Canada*
- Boreal Mountain Resort
- Bridger Bowl*
- Buttermilk
- Copper
- Crystal Mountain
- Deer Valley*
- Eldora Mountain Resort
- Giants Ridge Golf & Ski Resort

- Gorgoza Park*
- Grand Targhee
- Granite Peak*
- Hunter Mountain*
- Jackson Hole Mountain Resort
- Jiminy Peak
- June Mountain
- Killington Resort
- Lee Canyon*
- Lutsen Mountains
- Mammoth
- Mt. Bachelor
- Mt. Hood Meadows Ski Resort
- Pico Mountain
- Snowbird
- Snowmass
- *Snowshoe Resort*
- *Solitude*
- Soda Springs
- Squaw Valley*

- Steamboat
- Stratton
- Sugarbush Resort
- Taos Ski Valley
- Telluride Ski & Golf Resort
- Timberline Lodge & Ski Area
- Tremblant
- Wachusett Mountain
- Winter Park*

*Resorts that supported the Climate Challenge but did not submit complete greenhouse gas inventories for the 2017-2018 season.

Italicized = New Challenger in 2018

The Climate Challenge Program

1.0 Introduction

This year marked the **seventh year of the Climate Challenge**, a voluntary program designed to support and recognize ski areas that are committed to reducing their climate impact. Challengers do this by inventorying and reporting on their carbon footprints, setting goals for carbon reduction, implementing at least one on-site carbon reduction strategy per year, and engaging in climate change advocacy efforts.

Each year the Climate Challenge program seeks to build upon its successes to improve the operations of existing participants while adding new members. To this end, the program welcomed four new Challengers during the 2017-18 season: Bridger Bowl Ski Area (MT), Eldora Mountain Resort (CO), Mont Tremblant (Quebec), and Winter Park (CO).

Looking to next year, the ski areas joining the Climate Challenge for the 2018-19 season are Bear Valley Mountain, CA, Blue Mountain, ON., Blue Mountain, PA., Snowshoe Mountain, WV, Solitude, UT, and Wachusett Mountain, MA.

Why the Climate Challenge?

Climate change presents challenges to the ski industry that require proactive planning, action, and bold leadership. The Climate Challenge provides a framework for participants to engage in a multi-year process that enables them to plan and implement actions that will reduce emissions, share those successes industry wide, and collaborate with others in the industry to leverage the collective power of working together on climate issues.

GOALS OF THE CLIMATE CHALLENGE

- **Higher standard:** The program will raise the standard for ski areas wishing to take their sustainability performance to the next level.
- **Long-term:** The program will be multi-year, seeking to compound the benefits of actions taken by participants over many years and to grow the number of participants from year to year.
- **Cost-efficient:** The program will leverage the investment of participants and sponsorships to deliver more value to participants than their individual investments.
- **Credible:** Quantification of greenhouse gas inventories, targets, and reduction measures will be developed in alignment with a credible protocol, using boundaries consistent with industry approaches.
- **Transparent:** The approach taken by the program will be transparent to participating ski areas and the public.
- **Fair:** The program will be fair, facilitating participation for ski areas of all sizes, regions, and focuses.
- **Easy:** The program will provide participating ski areas with guidance and tools to make participation as simple as possible.

Challenge Elements

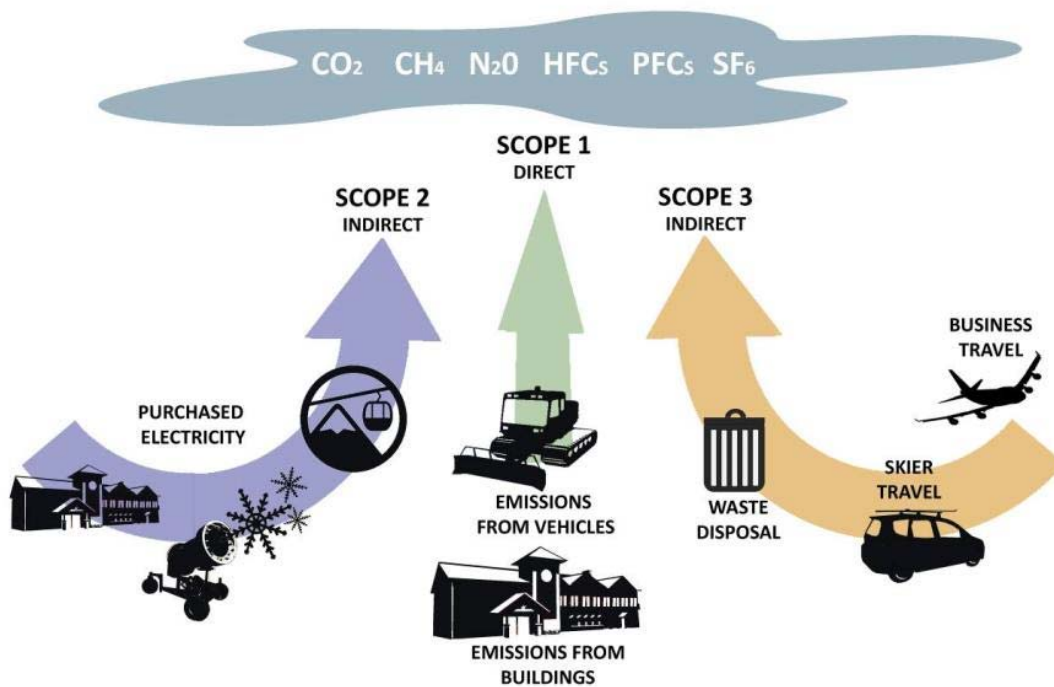
Ski areas participating in the Challenge commit to a five-step process each year.



Inventory

In order to understand the impact of their operations, Challengers inventory greenhouse gas (GHG) emissions for their ski area operations. Inventories are required to include direct emissions at the ski area (Scope 1) and indirect emissions from purchasing energy, such as electricity (Scope 2). Other emissions, such as those from waste disposal or business travel, can be included at the discretion of the Challenger. The Challenger can choose to inventory emissions for the fiscal or calendar year.

For 2017/2018, Challengers prepared inventories using a tool that follows the guidelines of The Climate Registry's General Reporting Protocol.¹



¹ "General Reporting Protocol." The Climate Registry, n.d. Web. 23 May 2017. <<https://www.theclimateresistry.org/tools-resources/reporting-protocols/general-reporting-protocol/>>.

Target

With an understanding of the emissions generated by their operations, Challengers define a target (or goal) for reducing emissions. The structure of the target is flexible: the Challenger can select which emissions to reduce, how much they will be reduced, and over what time period the target will be achieved. Regardless of the structure of the target, Challengers define a target that will reduce GHG emissions relative to an established baseline GHG inventory for ski area operations. A number of Challengers have already achieved their targets or their target date is approaching soon; as a result, a number of ski areas are in the process of establishing new targets and commitment periods.



Targets are the means for measuring Challenger progress and hopefully will become useful planning tools as Challengers make operational decisions in years to come.

THE LANGUAGE OF CARBON

Carbon Dioxide (CO₂): The major heat-trapping gas whose concentration is being increased by human activities. It also serves as the yardstick for all other GHGs. The major source of CO₂ emissions is fossil fuel combustion. Carbon dioxide emissions also result from clearing forests and burning biomass. Atmospheric concentrations of CO₂ have been increasing at a rate of about 0.5 percent a year, and are now more than 30 percent above pre-industrial levels.

CO₂e: Carbon dioxide equivalent, a measure that is used to express the concentration of all heat trapping gases in terms of CO₂.

MTCO₂e: A metric ton of CO₂e. A metric ton is equivalent to 1.102 short tons or 2,204 pounds.

Reduce

Challengers commit to take one measurable step to reducing their GHG emissions each year in order to progress toward their target. Examples of reduction projects include increased energy efficiency in buildings, lifts, and snowmaking; switching to more efficient fleet vehicles; increasing diversion of solid waste to reuse; recycling or composting; or installing a renewable energy system on-site.

The Climate Challenge views purchasing a renewable energy credit (REC) or a carbon offset as a means of contractually demonstrating an emission reduction. These instruments may be used by Challengers to achieve targets, but are not recognized for the Reduce component of the Challenge. In other words, at least one reduction project must occur on-site each Challenge year.

Outsourcing or divesting emission sources is not allowed as a reduction strategy for those participating in the Challenge. For example, outsourcing a restaurant to a concessionaire during the Challenge will not be considered a reduction in emissions from a baseline that includes the restaurant.

Advocate

Advocacy is a core component to the Challenge's overall goal. The advocacy element of the Challenge helps communicate important efforts made by the ski industry to leaders and legislators on a national level, and supports regional or national legislation or regulation targeting climate issues. Members are required to engage in advocacy activities, such as endorsing energy/climate change advocacy letters. This often includes sending correspondence from the resort to its Congressional delegation on the resort's efforts or initiatives, and the ski industry's efforts on the Climate Challenge. Additional advocacy options include engaging in climate advocacy at the state level, writing an editorial about climate change, and attending a climate advocacy-related event with NSAA.

Report

Having completed the first four activities in the Challenge, Challengers report a summary of their results to the Climate Challenge program and the public. The summary includes the following elements:

- Total GHG emissions in MTCO_{2e}
- Stated reduction target
- A narrative description of reduction activities
- Documentation of advocacy requirements

Challengers are asked to be complete and accurate in reporting to the Challenge. The goals of the Challenge are larger than a single ski area and are best served when all participating ski areas make their best effort. To this end, all submitted inventories, targets, and reduction activities are reviewed by a third-party to ensure they are eligible and reasonable with respect to the program's standards and expectations.

Program Support

To aid Climate Challengers with the program requirements, Brendle Group provides educational and technical support. In fall 2017, a kick-off seminar was held to introduce participants to the program requirements and to explain the features of the data collection tool and relevant updates for the season. One additional seminar was held to provide a deeper dive into the different program requirements and to foster increased collaboration among participating resorts.

Challengers are also welcome to email or call the Climate Challenge team to troubleshoot the tool, gain feedback on target setting, or brainstorm reduction projects. An annual program guide and newsletter were sent to Challengers for expansive program details and more helpful hints on how to maximize program success.

Encouraged Elements

In addition to the four program requirements, Challengers are encouraged to undertake a number of activities to reduce emissions in indirect ways that may not be reflected in their inventories but may still have a significant impact on global emissions. These activities are recognized and supported by the Climate Challenge. Some examples of these indirect activities are described here:

- Adaptation – A new adaptation toolkit was added to the Climate Challenge’s offerings. This new toolkit provides resources and a planning framework that can help resorts enhance their climate resilience.
- Tackling Waste – A number of resorts have made strides in reducing their waste by improving and investing in recycling programs and working to limit the use of disposable goods such as single-use water bottles.
- Educational Events – Many resorts host events that are focused on environmental education with topics covering climate change and more. For one resort, educational events took the form of training for resort management to help make sustainability a bigger part of all operations.
- Water Efficiency – In addition to energy efficiency many resorts are taking steps to improve their water footprint often through upgraded snowmaking equipment. One resort is even using 100% recycled water for snowmaking.
- Transportation Programs – Skier and employee transit continues to be an area of emphasis for resorts with many are investing in infrastructure, providing incentives, and educating their skiers and riders to reduce single-occupant vehicle travel to ski areas and enable electric vehicle transportation.

1.2 Challenge Results

The following sections present the outcomes of the inventory, target, reduce, and advocate process for this year’s Climate Challengers. The Challengers represent a variety of ski area sizes, regions, and operational characteristics. In addition, the carbon intensity of the electricity they purchase varies widely. In other words, ski areas are all unique; however, they all have committed to reducing their GHG impact.

In 2017/18, Scope 1 and 2 emissions totaled 167,251 MTCO₂e for all Challengers that reported complete GHG inventories. Reporting resorts implemented on-site projects that reduced emissions by 1,509 MTCO₂e and reported REC purchases equivalent to 593 MTCO₂e. The cumulative impact of on-site projects since 2011 (which accrue annual reductions for the life of the project) totals 60,729 MTCO₂e reduction. The cumulative total of all REC purchases since 2011 is 191,440 MTCO₂e. Together, the cumulative impact of all on-site projects plus REC purchases since 2011 is 252,169 MTCO₂e. This reduction is the equivalent of over 37,700 homes’ electricity for a year, or the carbon sequestered by 6.5 million tree seedlings grown for 10 years.

The number of Challengers continues to increase each year and the Climate Challenge is excited to see how increased reporting support can help show reductions in average total emissions and increases in average project reductions. However, this year did present difficulties for the program in terms of data availability and timeliness of reporting for some resorts – issues that we hope to resolve in future seasons through improved training, support, and communication.

The table below provides an overview of the progress ski areas have been making towards reducing greenhouse gas emissions during the six years of the Climate Challenge. Note that the results do not include those resorts that were unable to submit complete greenhouse gas inventories for the 2017-2018 season: Alpine Meadows, Bridger Bowl, Deer Valley, Granite Peak, Hunter Mountain, Gorgoza Park, Lee Canyon, Squaw Valley, and Winter Park.

Reporting Year	Challengers**	Total Scope 1&2 Emissions*	Average Scope 1&2 Emissions*	Emissions Reductions Per Year*	Average Emissions Reductions*	RECs Purchased*
2011	8	65,131	8,141	172	22	2,134
2012	17	106,934	6,290	3,694	217	33,346
2013	17	103,398	6,082	1,130	66	41,819
2014	27	168,584	6,244	2,147	80	41,944
2015	28	192,055	6,646	5,588	200	38,580
2016	30	204,477	6,816	2,424	81	33,024
2017	24	167,251	6,969	1,509	63	18,678

*Reported in MTCO₂e, **Challengers that submitted completed inventories

Since 2011, average Scope 1 and 2 emissions have decreased by 7 percent. The average project reductions per ski area see a large amount of fluctuation from year to year but have consistently remained well above their 2011 starting point. When reported in MTCO_{2e}, RECs have seen a large decrease since 2014. However, much of this decrease is due to improvements in the electricity generation mix, each kWh purchased as a REC represents a smaller amount of carbon than it did four years ago.

Trends emerge when looking at the types of reduction projects that Challengers completed. Lighting upgrades continued to be hugely popular this year. Multiple resorts also completed projects focused on snowmaking efficiency upgrades, replacing older snowcats with more efficient models, and improving insulation.

Challengers were also tasked with advocating for climate change or energy policies during the 2017-18 season. They accomplished this requirement in a variety of ways, which included:

- Sending direct correspondence to their Congressional delegation regarding climate change legislation.
- Endorsing the Carbon Pricing Principles through the Citizens' Climate Lobby.
- Getting active in support of local community and municipality climate initiatives.

The remainder of this section provides the results for individual participating ski resorts in alphabetical order.



Alta Ski Area – Utah

INVENTORY FY 2016	MTCO _{2e}	TARGET
Scope 1 & 2 (Req)	5,080	Alta Ski Area will reduce emissions by 20 percent under 2010-11 levels by 2020-21.
Scope 3 (Solid Waste)	279	
Total	5360*	

*Scope 1, 2, and 3 may not add up to total due to rounding

Reduce

Alta Ski Area added some Alerton system detections and updated lighting systems.

Other Progress

Alta Ski Area seeks to be a leader in land conservation, not just because we live in a protected watershed and National Forest, but because we care, we are stewards, and we believe in making the mountains around Alta a better place. It takes a lot of people to get things done, this was our lineup of stats for the summer of 2016.

Stewardship:

- 23 individual volunteer events
- 463 volunteers
- 2,154 hours of hard work
- 1,630 native flowers planted
- 2,000 native trees planted

Environmental Education:

- 14 individual education events (including Alta Kid's Day focusing on environmental education)
- 837 participants
- 2,636 hours of education



Arapahoe Basin Ski Area – Colorado

INVENTORY FY 2017	MTCO _{2e}	TARGET
Scope 1 & 2 (Req)	3,591	Arapahoe Basin Ski Area will reduce emissions by 3 percent under 2009-10 levels by 2019-20.
Scope 3 (Solid Waste)	99	
Total	3,690*	

*Scope 1, 2, and 3 may not add up to total due to rounding

Reduce

Arapahoe Basin underwent a building energy automation and controls project at mid-mountain lodge which has led to an 83 MTCO_{2e} reduction

Other Progress

In addition to these yearly sustainability projects, Arapahoe Basin is constantly striving to reduce greenhouse gas emissions in any way we can. There are a number of programs we undertake at the mountain to further this goal through education, policy, and planning.

One such program is our carpooling initiative for both employees and guests. Arapahoe Basin is privileged to have service to and from the mountain by the Summit Stage, a free bus system that links most ski areas and major destinations within Summit County. Guests are encouraged to ride the bus or carpool with a number of incentives, including significantly discounted lift tickets and reserved parking spaces in prime locations closest to our chairlifts and base lodge. Employees are also encouraged to ride the bus or car pool every day of the year. However, carpooling is made mandatory for employees on weekends during the spring months. In addition to the free bus and encouraging employees to bring three or more people per car, the Basin also runs shuttles from employee housing and a few other central locations on these days. These efforts save on parking stresses, as well as limiting the number of cars on the road, gallons of gas burned, and any associated emissions.

Another step Arapahoe Basin is taking to further our sustainability message and goals is partnership with a number of local nonprofits and conservation groups. Arapahoe Basin's Employee Environmental Fund benefits two conservation groups, Friends of the Eagle's Nest Wilderness and the Continental Divide Land Trust, with more than \$2,000 donated each year. Employees have the option to donate \$1 or more from each paycheck, which The Basin matches and splits between the two groups. We also work very closely with our local conservation center, High Country Conservation, which provides the community with sustainability solutions from composting tips and energy audits to sustainability curriculums in local schools. Every year in the spring we host the Save Our Snow event as a fundraiser benefitting the conservation center. The event brings many of our partners and local companies together to highlight sustainability, and between the sale of raffle tickets and a portion of each lift ticket, raises quite a bit of money to help with their programming.

In addition to our fundraising efforts, carpool incentives and projects, Arapahoe Basin has also integrated sustainability into all of our training and orientation materials and built environmental awareness into every department's daily activities. There is a no-idling policy in place for all company vehicles, as well as for guests. There are even sustainability purchasing guidelines that empower purchasers to make responsible decisions, even at the cost of the company. All of these efforts and more combine to make Arapahoe Basin as sustainable as it can be despite the often resource and energy intensive nature of our business. We know we aren't perfect yet, but we feel that every effort, no matter how small, is a step in the right direction. Arapahoe Basin is committed to walking lighter on the planet, even in our ski (and snowboard) boots!



Aspen Skiing Company – Colorado

INVENTORY CY 2017	MTCO _{2e}	TARGET
Scope 1 & 2 (Req)	21,221	Aspen, Aspen Highlands, Buttermilk, Snowmass plus all ancillary operations will reduce emissions by 18 percent under 2014 levels by 2020.
Scope 3 (Solid Waste)	20	
Total	21,241*	

*Scope 1, 2, and 3 may not add up to total due to rounding

Reduce

Aspen Skiing Company continues to implement lighting retrofit projects in the: BM shops, Divide Shop, 407, Timbermill, Aspen Highlands Building 7, SM Ops and F&B Locker Room, Riverside planning office and at Sopris View. Additionally, Aspen has converted the Riverside Boilers from non-condensing to condensing units, which has saved over 4,300 therms of natural gas and have installed car chargers at 117, Riverside and with TOSV.

Other Progress

Check out the links below to learn more about Aspen’s sustainability initiatives.

- Aspen Way campaign: <https://www.aspensnowmass.com/inside-aspen-snowmass/the-aspen-way>
 - <https://www.aspensnowmass.com/-/media/aspensnowmass/pdfs/environmental/ascpowintrawestschendleranswertestimonyfinal.ashx?la=en&hash=C38AE14665BF08892FD72A5228DACFOFF725335A>
 - <https://www.aspensnowmass.com/we-are-different/take-action>
 - <https://www.aspensnowmass.com/we-are-different/protect-our-winters>
 - <https://www.aspensnowmass.com/we-are-different/supporting-the-local-community>
 - <https://www.aspensnowmass.com/we-are-different/programs-and-practices>
- In our 21st year, The Environment Foundation has donated over \$3.4 million to more than 550 projects across the Roaring Fork Valley to protect the environment: <https://www.aspensnowmass.com/we-are-different/the-environment-foundation>.
- Also check out our green operations section for an ever growing list of our work: <https://www.aspensnowmass.com/we-are-different/programs-and-practices/green-operations>.
- We constantly update our followers via our Sustainability Facebook page: <https://www.facebook.com/groups/AspenSustainability/>.



Beaver Valley Ski Club – Ontario, Canada

INVENTORY FY 2017	MTCO _{2e}	TARGET
Scope 1 & 2 (Req)	428	Beaver Valley Ski Club will reduce emissions by 15 percent under 2011-12 levels by 2020-21.
Scope 3 (Solid Waste)	24	
Total	452*	

*Scope 1, 2, and 3 may not add up to total due to rounding

Reduce

Beaver Valley replaced four low efficiency air compressors with two high efficiency compressors.

Other Progress

Beaver Valley Ski Club has been a part of the NSAA's environmental programs since 2010. We have implemented many projects to reduce our greenhouse gas emissions and our impact on our piece of Ontario, Canada. Here is a summary of what we have done lately. We began adding insulation to the walls and ceilings of our main clubhouse, a project that is ongoing into this summer 2018. We have installed a wood-burning stove to replace baseboard electric heaters in our secondary clubhouse. We retired a diesel V8 pickup truck and added a V6 diesel shuttle to our fleet. The club replaced 4 inefficient air compressors with 2 high efficiency air compressors. This compressor upgrade gives us a 16% reduction in kWh consumption in our snowmaking operations. In 2011 BVSC set a reduction target to reduce 2011 baseline emissions by 6% by 2020 that we have since surpassed due to a change in the electricity mix of Ontario's power grid - the province closed 2 coal plants and increased nuclear capacity. So we have set a new reduction target to reduce our baseline emissions by 15% by 2020. Being one of the few Canadian resorts to be a part of the Climate Challenge (and the smallest), Beaver Valley is working to start a conversation with the rest of the snow resorts and the population around climate change and its impact on Canadian snow resorts. #beavervalleyvsclimatechange



Boreal Mountain Resort & Soda Springs – California

INVENTORY FY 2016	MTCO ₂ e	TARGET
Scope 1 & 2 (Req)	1,570	Boreal Ridge Corp. will reduce emissions by 25 percent under 2011 levels by 2020.
Scope 3 (Solid Waste)	78	
Total	1,650*	

*Scope 1, 2, and 3 may not add up to total due to rounding

Reduce

Boreal Ridge Corp. purchased two tier 4 snowcats and retired less efficient vehicles. Additionally, they performed a retrofit of their night lighting infrastructure.

Other Progress

The California sun is a beautiful thing and at Boreal Mountain California, we can now do more than enjoy it while we partake in our adventure lifestyle activities; we are converting it to clean energy. In December of 2017, Boreal Mountain California went live with the Tahoe Solar at Boreal Mountain California project. We installed 715 solar panels on the roof of the Woodward Tahoe action sports facility, this 235kw photovoltaic system will produce 325,000kwh annually. The installation will offset more than 250 tons of carbon annually, the equivalent to removing 52 cars from the road. This rooftop array is the largest in the California ski industry and has set the bar for other industry leaders to follow. As this system is a rooftop array, there was zero ground disturbance in the construction. Visible from the highly travelled California Interstate 80, the Tahoe Solar Project is not only the largest installation in the California Ski Industry, but is the largest high altitude system in the country. We chose the identity of "Tahoe Solar at Boreal Mountain California," with the goal of social impact among the greater Tahoe region in hopes that awareness will inspire action from the action sports industry and community.

It's our responsibility to protect our natural resources and ensuring that we can enjoy winter sports for years to come. Boreal is committed to reducing carbon emissions produced through our operations. In addition to offsetting 100% of energy used through purchasing renewable energy credits, Boreal and Soda Springs resorts are actively finding solutions to reduce energy and water usage, influence behaviors that positively impact the environment, and to advocate for effective sustainable policy and regulation.

The Tahoe Solar Project sits proudly next to the Soda Springs Recycled Water Initiative in which the resort became the first resort in California to use 100% recycled water for snowmaking. These hallmark initiatives enable a renewable way to power a rapidly growing resort business. Both resorts have joined NSAA's Climate Challenge and continually set goals, measure the success each season and are proud to be honoring our commitments. These initiatives demonstrate that recreation and industry can grow alongside advancing our sustainability efforts; since 2008, we have reduced 790 tons of carbon annually.

Video showcasing this initiative can be seen through this link:

https://www.youtube.com/watch?v=sGZVV_u3C38

This commitment to onsite creation of clean energy will offset annually 15% of our total company energy usage, 65% of our base area usage and Woodward Tahoe will be generating more power than it consumes on an annual basis. It is anticipated that during the months of April through September this system will generate more power than consumed at the resort base area. Our Climate Challenge target is to reduce emissions by 25% below 2011-2012 levels by 2020, this project achieves 66.4% of our goal. The upfront cost for this project was \$615,000 and we will benefit from a \$184,000 Federal Tax Credit, a State of California MACRS Depreciation Credit of \$50,000, and a Federal Depreciation Credit of \$157,000. The \$224,000 net payment has a 6.3 year return on investment, and over 30 years will have a 12.19% internal rate of return and a \$1,432,000 avoided utility cost. Youth = Power. Boreal and Woodward Tahoe are youth-centric brands with the opportunity to influence an impressionable audience. As part of the launch of the system, Boreal initiated a guest education initiative in which we share the benefits of our system as well as actions that can be taken by the guest to reduce energy usage. This is being rolled out through engagement on-site, on-line and through specific outreach channels such as the Burton Chill Foundation, Sierra Nevada College Sustainability program, employee communications and Woodward Tahoe youth programs. Beginning in February, we will be launching a content series showcasing, "What we are doing, and what you can do." Planned for this summer is a sustainability education component for our Woodward Tahoe Summer Camp in which we engage with 1,600 youth in week-long action sports camps.



Bridger Bowl – Montana

Reduce

Through the cooperative relationship with our local City of Bozeman Sustainability Director, the Western Transportation Institute and Bozeman's chapter of HRDC, the Bridger Bowl board of directors approved of a \$132,000 towards the purchase of one of three electric buses and two charging stations that were made available through a substantial low or no emissions grant made possible through the Montana Department of Transportation and the Federal Transit Administration. With the successful award of this grant, Bridger Bowl will have one, and possibly, two electric buses to provide free service on the weekends, and one electric bus to provide regularly scheduled service on weekdays during the ski season. These buses will be put back into the City of Bozeman's transportation fleet during the other 7 months of the year that Bridger Bowl is not operating.

Other Progress

Bridger Bowl is a nonprofit community ski area located 16 miles north of Bozeman, Montana. In that Bridger is a day use area, we don't have the lodging accommodations that are typical of most ski resorts. As well, our mountain is very conservative with energy consumption and has a very modest grooming schedule. After completing the Uncommon Sense sustainability program through the Yellowstone Business Institute over 10 years ago, we made significant efforts to improve all our recycling of oils, cardboard and glass products as well as domestic waste products in our food services.

Wanting to be a supportive partner with NSAA's climate challenge, we signed up for the 2017-18 program.

Using our energy consumption data from 2016-17 season, we created a baseline for energy consumption data for the entire mountain using last season's numbers obtained from Northwestern Energy. However, for this 2017-18 season our primary focus was on our transportation program at Bridger Bowl. We have been offering free bus service from our Park & Ride location at our local County Fairgrounds in Bozeman for several years. In that Bridger Bowl is an easy 20 minute drive away from a ski town that lives to ski, it has been very difficult to change the independent transportation culture of our local Montanan residents. Especially with low gas prices these past few years, it has been very hard to discourage single travelers from driving up to the mountain, and filling up our parking lots and disproportionately negatively impacting the environment with their carbon footprint. Though Bridger Bowl has been working for years on encouraging carpooling and use of our bus service, we were still unsuccessful in changing this "one passenger/car" behavior.

Bridger Bowl has been the sole funding source for all of our bus programs, including our daily employee bus and weekend "kids" buses that involve the use of school buses on the weekends. Despite the significant investment our mountain has made in the past, we have committed to doing even more to make a significant impact. For the 2016-17 season we increased the bus service from 3 round trips per day, to bus service on the hour. We saw a significant increase in ridership and fewer cars in our ski area's parking

lots which often maxed out on big weekends. However, with rapid growth at our ski area, our parking lots were still crowded and we still had too many single rider vehicles coming to the mountain.

For the past few years, we have conducted an extensive awareness campaign about carpooling and free bus service on our website and most of our printed materials. We have promoted NSAA's Keep Winter Cool and more recently enlisted with the Protect Our Winters program. We also hold two major discounted skiing events during the winter where we required "3 on a wheel to get the deal". So, with car and busloads of 3 or more people, each passenger got a voucher for \$30 lift ticket or discounted food and ski lessons, if pass holders. Despite these efforts, our mountain's parking lots were not keeping up with our rapidly growing skier visits nor changing the driving habits of our locals. So, for the 2017-18 ski season, we committed additional funds to increase our free Bus Service to departures every 30 minutes from the Fairgrounds and then returning skiers from the mountain to town. This made our weekend bus service much more attractive to the locals and destination visitors, alike.

As part of our advocacy program, Bridger Bowl has been very proactive in working with our local Citizen's Climate Lobby, Protect our Winters and NSAA's national efforts to promote Climate Change awareness and Ski Industry Sustainability. During Doug Wales' tenure as marketing director for Bridger Bowl, he often participated on climate change panels offered by POW as well as the local Citizens Climate Lobby, and helped by providing in-kind support for raffles and fundraisers. As well, Doug worked closely with the Citizen Climate Lobby of Bozeman in making presentations to the Montana Ski Area Association and persuading their organization to officially adopt the climate change position and clean air resolutions put forth by NSAA. As Climate Change committee chair for NSAA, Doug sent letters to all of Montana's state and federal legislators and representatives advocating for clean energy legislation and incentives to Montana businesses. Most recently Doug participated on a 6 person panel discussion that followed the public showing of Saving Snow this past spring.



Copper Mountain Ski Resort – Colorado

INVENTORY FY 2017	MTCO _{2e}	TARGET
Scope 1 & 2 (Req)	23,800	Copper continues its absolute reduction goal of 12,000 MTCO _{2e} using 2011-2012 as a baseline.
Scope 3 (Solid Waste)	623	
Total	24,400*	

*Scope 1, 2, and 3 may not add up to total due to rounding

Reduce

Copper Mountain Ski Resort continued the lighting upgrades to their Base Area to reduce consumption, installed electric vehicle charging stations, and installed solar thermal heating at Solitude station.

Other Progress

Copper Mountain continues our participation in the NSAA's Climate Challenge and our effort to reduce our carbon footprint. During this reporting period, Copper continued our base area building lighting retrofit project. An additional 333,579 kWh of annual power savings was realized. In many cases, older indoor lighting fixtures were completely replaced, rather than just upgrading the bulbs. New lighting fixtures allow for better light distribution, and allow for even greater electrical efficiency. In total our base area lighting retrofit project achieved 703,579 kWh of annual power savings. This is equivalent to taking 112 passenger vehicles off the road for one year. Copper's dedication to saving energy will continue on with a focus toward other areas of building efficiency. In addition to our base area lighting upgrades, Copper continues our conservation efforts through our dedication to waste reduction through commingled recycling, composting, and scrap steel recycling. These waste reduction efforts resulted in a 290 MtCO₂ reduction. In combination with Copper's other efficiency projects, a total carbon reduction of 468 MtCO₂ was realized for this reporting period. This is equivalent to taking 100 passenger cars off the road for a year. As a company and community of people who care about a reducing our carbon footprint, Copper Mountain is excited to continue our dedication to make the future a better place.

Eldora Mountain Resort

INVENTORY FY 2017	MTCO ₂ e	TARGET
Scope 1 & 2 (Req)	7,100	Eldora Mountain Resort will reduce Scope 1 & 2 emissions by 10% under 17-18 levels by 22-23.
Scope 3 (Solid Waste)	62	
Total	7,150*	

*Scope 1, 2, and 3 may not add up to total due to rounding

Reduce

Eldora Mountain Resort implemented lighting retrofits in Indian Peaks Lodge and the Vehicle shop, reducing electricity consumption by an estimated 100,000 kWh. Eldora also increased compost and recycling collection to divert an estimated 9 tons of garbage from the landfill.

Other Progress

Since Eldora Mountain Resort was purchased by POWDR Corp. in June of 2016, staff has been encouraged to implement energy saving strategies through recycling, composting, waste reduction, lighting/equipment upgrades with the goal to reduce our carbon footprint. With POWDR's support, Eldora's first plan of action was to join the NSAA Climate Challenge to commit Eldora to take action against climate change. Additional sustainability programs and practices implemented are as follows.

1. Each year, Eldora replaces old snowmaking guns and lines with more energy efficient models. So far, 66% of the existing snow gun fleet has been replaced with energy efficient technology which use less water and energy.
2. Eldora joined the "We Are Still In" campaign to show our support of the Paris Climate Agreement.
3. Eldora joined the Partners in Energy for the Energy Conservation Summit. Partner resorts are: A-Basin, Breckenridge, Vail, Keystone and Copper where staff learned what energy conservation programs are in place at each partner resort, what renewable energy choices are available through Xcel Energy, continuing education and conservation opportunities.
4. Invited Boulder County's Partners for a Clean Environment (PACE) to audit opportunities Eldora has to determine achievable sustainability goals throughout our facilities. As a result, the resort installed high efficiency aerators in the bathrooms and kitchen areas; installed low-flow toilets in bathroom remodels; retro-fit low flow toilets and aerators in existing bathrooms.
5. PACE came to our Management University and trained all returning managers on how to recycle the resort's new line of compostable and recyclable Food & Beverage paper products.
6. PACE provided Eldora with easy to read signage for guest recycle, compost and trash bins.
7. Eldora is continuing to implement company-wide retro-fit upgrade incandescent bulbs and T8 fixtures to LEDs.
8. Eldora replaced all plastic and fiberglass signage at the resort with locally made handcrafted wood signs that can be easily repaired rather than replaced.
9. Eldora provided all returning managers, supervisors in 20 departments recycle bins for back of the house offices.
10. Food & beverage locations received large compost and recycle bins to use behind the lines to make it easier for employees to recycle.

11. Eldora increased recycle quantity over 28 months by 6.65 tons and compost by 2.68 tons
12. Began a company-wide initiative mandatory for employees to carpool or ride the RTD. Including complimentary bus vouchers and paying employees an extra hour a day for commute time.
13. Food and beverage department began a new menu rollout that will continue through the 2018-2019 season featuring locally sourced ingredients.
14. Used recycled timber removed for trail expansion to build tables and benches in Indian Peaks and Timbers Lodges.
15. Replaced 2 water fountains with refrigerated filtered water bottle refill stations.
16. Provided reusable shopping bags for retail and food & beverage use.
17. Eldora joined the "Suck the Straws Out" campaign to remove the use of plastic straws and plastic stirrers to offer paper straws upon request.
18. Donated 10% of proceeds from Earth Day/Closing Day event to Protect Our Winters (POW).
19. Worked with the Sierra Club and Middle Boulder Creek Coalition to enter into a Memorandum of Understanding regarding preservation of the Middle Boulder Creek Water shed from future development.
20. Donated 500 employee uniforms to Sharing Warmth Around the Globe (SWAG) through NSAA.
21. Donated \$2200 of end-of-season food surplus to the Nederland Food Pantry.



Grand Targhee Resort – Wyoming

INVENTORY FY 2017	MTCO _{2e}	TARGET
Scope 1 & 2 (Req)	3,010	Grand Targhee Resort will reduce emissions by 2 percent under 2013-14 levels by 2020-21.
Scope 3 (Solid Waste)	113	
Total	3,120*	

*Scope 1, 2, and 3 may not add up to total due to rounding

Reduce

Grand Targhee installed a new central water heater in the Teewinot Lodge to replace older inefficient water heaters previously in each room. Furthermore, thanks to lighting retrofits, nearly 100% of base resort buildings are using newly installed energy efficient LED lightbulbs reducing electricity consumption by an estimated 125,000 kWh.

Other Progress

Grand Targhee Resort had its busiest year on record with nearly 200k skier visits. With the increased business the resort is committed to increasing shuttle service, improving recycling, and reducing emissions per visitor. The resort continued with LED lighting upgrades to all base area buildings, including occupancy sensors in restroom facilities.

Out on the mountain, timers were installed in the chairlift houses to minimize electrical use on lights and heaters. To reduce single use water bottles, two new water bottle filling stations were installed in guest and employee areas. Employees are empowered to follow sustainability purchasing guidelines and make responsible buying decisions when available. For example, 100% of our marketing materials are produced by a local company. Our retail store, Teton Mountain Outfitters, sold over 1,000 reusable shopping bags to guests, eliminating their use of plastic shopping bags.

The Grand Targhee Shuttle is free for employees and lodging guests and resulted in over 31,000 riders this winter; up from 25,000 riders last winter. The resort continues to promote carpooling, especially on busy weekends. This year there was a POW Carpool Challenge throughout February. Guests who carpooled on the weekends were then entered into weekly drawings where they could win some great prizes. The resort purchased two new efficient diesel shuttles for the airport shuttle program. Program ridership increased by 50% over the past winter. The resort also implemented a new shuttle service with hotel pick-ups from Jackson, WY. These programs encouraged guests to keep their individual rental cars off the road. The resort also purchased two new large shuttles to maximize guest and employee ridership throughout the valley. The resort continues to enforce the No Idling policy for all vehicles, and the policy has been included into a group contract with bus transportation. The resort will continue to improve signage in efforts to educate guests about the No Idling policy.

Grand Targhee is dedicated to recycling across the resort, and now offers recycling bins in every lodging unit and vacation rental. All the chairlifts now have bear-proof sorted recycling bins, accessible year-round. The resort diverted over 27 tons of recycling from landfills this past season including over 300 lbs. of lift tickets.

Grand Targhee Resort's Protect Our Winters partnership program has donated over \$90,000 to local education programs and projects in the community that are in line with POW's mission. Guests can donate onsite, through their lodging reservation, or food and beverage bill. Employees can participate directly from their pay checks. The Resort in turn will match 100% of donations collected throughout the year.

In addition to fundraising efforts, carpool incentives, and projects, Grand Targhee Resort has integrated sustainability efforts into all employee training and orientation materials, as well as in our lodging information. Guest and employee education participation is strong with Resort Naturalist-led snowshoe tours, summer hikes, and staffing a year-round Nature Center. Resort Naturalists host field trips with local schools and offer natural history training for all mountain employees.

As Grand Targhee Resort welcomes increased business levels, the resort continues to look for ways to balance the impacts of increased visitors with transportation, waste stream management, emission goals and resort efficiencies.



Jackson Hole Mountain Resort – Wyoming

INVENTORY CY 2017	MTCO ₂ e	TARGET
Scope 1 & 2 (Req)	7,100	Jackson Hole Mountain Resort will reduce emissions by 5% under 2009 levels by 2020.
Scope 3 (Solid Waste)	not reported	
Total	7,100*	

*Scope 1, 2, and 3 may not add up to total due to rounding

Reduce

Jackson Hole performed a company-wide lighting retrofit.

Other Progress

Jackson Hole Mountain Resort (JHMR) has set a high environmental standard for ski resorts of any size in North America by developing an Environmental Management System (EMS) and maintaining this program under external review for 11 years.

The EMS sets a standard via (a) integration of all departments to reach overall resort goals (b) continual annual improvement (c) thoroughness in monitoring, reporting and external verification to international standards.

In terms of audited resort-level objectives, each year every department must submit meaningful, attainable and measurable environmental goals to the JHMR Environmental Manager and report progress on previous goals. The goals must fulfill National Ski Areas Association Sustainable Slopes commitments regarding: (1) Planning design and construction, (2) water quality and conservation, (3) energy conservation and reduced carbon emissions, (4) waste reduction and recycling, (5) wildlife habitat conservation, (6) air quality/transportation, (7) visual quality, and (8) education and outreach.

The overall quantitative goals for JHMR’s EMS involve a reduction 5% reduction of JHMR GHG (greenhouse gas) emissions on an intensity basis (per skier visit) by 2020 relative to a 2015 baseline. Increase total MSW diversion to recycling and composting to 35% by 2020 compared to 2015 baseline. Reduce total hazardous waste volume production by one-third by 2020 compared to 2015 baseline and Reduce total on-mountain petrochemical spills to 0 by 2020.

Please check out Jackson Hole Mountain Resort’s “Environmental Responsibility” page if you are interested in learning more about their environmental efforts:

<https://www.jacksonhole.com/environment.html>



Jiminy Peak Mountain Resort– Massachusetts

INVENTORY FY 2016	MTCO _{2e}	TARGET
Scope 1 & 2 (Req)	4,420	Jiminy Peak Mountain Resort, LLC will reduce emissions by 7% under 2011-12 levels by 2019-20.
Scope 3 (Solid Waste)	not reported	
Total	4,420*	

*Scope 1, 2, and 3 may not add up to total due to rounding

Reduce

Jiminy Peak performed an LED lighting retrofit on balance of slope lights with ROAMview software.

Other Progress

- Jiminy Peak now has 4 EV car charging stations for our day and overnight guests, compliments of Tesla. We have two Tesla specific charging stations and 2 universal car charging stations available on site at no charge.
- Night skiing at Jiminy is now 100% under the glow of LED lights.
- Jiminy is currently constructing a second snowmaking reservoir to feed our gravity snowmaking system.
- Jiminy's snowmaking system exclusively uses Snowgun Technology Sledgehammer Towers and ground Guns. This technology allows us to operate at a 2:1 ratio producing significantly more snow at higher temperatures, using dramatically less energy.
- In addition to the renewable power purchased off the NEXAMP Peak Community Solar project, Jiminy now purchases renewable power from the Dudley Road Solar and Theodore Drive Solar Projects in Massachusetts.



Killington Resort & Pico Mountain – Vermont

INVENTORY FY 2016	MTCO _{2e}	TARGET
Scope 1 & 2 (Req)	4,850*	Killington and Pico Resorts will reduce emissions by 5% under 11-12 levels by 16-17.
Scope 3 (Solid Waste)	514	
Total	5,370**	

*Killington & Pico Mountain were not included in overall program summary results because reporting does not include electricity emissions due to difficulties in data collection.

**Scope 1, 2, and 3 may not add up to total due to rounding

Reduce

Killington Resort continued their recycling program and diverted more than 150 tons of materials from landfills.

Other Progress

Please check out Killington Resort's "Environment" page if you are interested in learning more about their environmental efforts: <http://www.killington.com/site/culture/environment>.



Lutsen Mountains – Minnesota

INVENTORY FY 2017	MTCO _{2e}	TARGET
Scope 1 & 2 (Req)	4,090	Lutsen Mountains will reduce emissions by 2% for the facilities and terrain that existed in our baseline year by 2027-2028. We will concentrate our efforts on our lodging facility.
Scope 3 (Solid Waste)	not reported	
Total	4,090*	

*Scope 1, 2, and 3 may not add up to total due to rounding

Reduce

Lutsen Mountains reduced their emissions by adding insulation to the attic of Lodging Building D to increase the envelope’s R-value by 20.

Other Progress

An emphasis on stewardship ensures the natural assets that make Lutsen such a special place remain the cornerstone of a North Shore vacation for generations to come. In recent years, we have:

- Installed innovative wastewater treatment systems.
- Formed the Poplar River Management Board which has invested \$2.5 million in water quality improvements.
- Installed a pipeline from Lake Superior as a sustainable source of water for our snowmaking and potable water for resort facilities and homeowners.
- Worked to minimize the impact of summer maintenance by implementing best practices for trail clearing and work vehicle access.
- Partnered with Conservation Minnesota to create a 'favorite places' website to foster a connection to the natural environment throughout the state.

Through the Climate Challenge we have been working toward making our buildings more energy efficient through projects like increasing insulation, converting to more efficient heating/cooling systems, and converting over to LED lighting. This year we will continue those projects and expand to other buildings.



Mammoth & June Mountain – California

INVENTORY FY 2017	MTCO _{2e}	TARGET
Scope 1 & 2 (Req)	15,100	Mammoth and June Mountain will reduce emissions by 6% under 2013-14 levels by 2019-20.
Scope 3 (Solid Waste)	not reported	
Total	15,100*	

*Scope 1, 2, and 3 may not add up to total due to rounding

Reduce

Mammoth and June Mountain continued lighting retrofits throughout its ski area resulting in an estimated 167,756 kWh electricity reduction. In addition, upgrades were also made to snowmaking pumping systems.

Other Progress

Mammoth and June Mountain (MMSA/JMSA) are constantly working to create a sustainable culture with our employees, guest and community. Below are the programs that have been implemented to try and reduce our environmental footprint.

- MMSA collaborated with students from Mammoth Middle School on a project to help reduce the environmental impact of plastic water bottles. To help reduce the amount of single use water bottles, a plan was developed and initiated to install water bottle filling stations throughout the resort. One filling station has been installed and is available to both guests and employees. Each year additional filling stations will be added to select locations throughout the resort.
- MMSA and JMSA encourage its guests to recycle and participate in utility conservation within our Hospitality venues. One of our lodging facilities provides a kid's eco kit which focuses on educating the next generation.
- MMSA has replaced 6 old, high polluting snowcats with new, more efficient Tier 4 engine snowcats. The Tier 4 standards set by the EPA require that emissions of PM and NO_x be reduced by 90%.
- JMSA collaborated with the USFS to remove dead trees and brush around the mountain in order to maintain a healthy forest, reduce the fire danger, and maintain the water shed.
- MMSA works in conjuncture with the Town of Mammoth Lakes to offer a free bus system to both employees and guests. Employees from the surrounding towns are offered carpooling options and a bus that provides them with transportation to the Mountain. Mammoth also does a Bike to Work Week where employees are encouraged to bike to work.



Mt. Bachelor – Oregon

INVENTORY FY 2017	MTCO ₂ e	TARGET
Scope 1 & 2 (Req)	6,840	Mt. Bachelor will reduce emissions by 3000 MTCO ₂ e by 19-20 from 11-12 levels, RECs included.
Scope 3 (Solid Waste)	not reported	
Total	6,840*	

*Scope 1, 2, and 3 may not add up to total due to rounding

Other Progress

Unfortunately, 2017 spent most of the year without a sustainability coordinator and therefore, no one to continue to push carbon-saving initiatives through. The crew picked up steam again at the end of the year, and is hoping to make a lot of changes in 2018 -- most of those changes focused heavily on our waste/recycling. We will be eliminating most of our single-use items including to-go cups, straws, water cups, plastic utensils, and more. We are also starting a campaign this upcoming Fall to encourage the purchase of reusable water bottles and to utilize the new water bottle fill stations rather than purchasing plastic water bottles. We've also been working on some potential projects that would heavily offset our carbon usage in the future. More to come on that!



Mt. Hood Meadows – Oregon

INVENTORY FY 2016	MTCO ₂ e	TARGET
Scope 1 & 2 (Req)	4,120	Mt. Hood Meadows will reduce emissions by 6% under 2010-11 levels by 2019-20.
Scope 3 (Solid Waste & Reimbursed Mileage)	23	
Total	4,140*	

*Scope 1, 2, and 3 may not add up to total due to rounding

Reduce

Mt. Hood Meadows undertook actions to reduce emissions at the legislative level.

Other Progress

For more information about Mt. Hood Meadows’ environmental commitment please see <https://www.skihood.com/about-us/environment>.



Snowbird Ski and Summer Resort – Utah

INVENTORY FY 2016	MTCO _{2e}	TARGET
Scope 1 & 2 (Req)	25,800	Snowbird Ski and Summer Resort will maintain emissions at 2013-14 levels through 2024-25.
Scope 3 (Solid Waste)	1,500	
Total	27,300*	

*Scope 1, 2, and 3 may not add up to total due to rounding

Reduce

This past winter Snowbird installed five electrical vehicle charging stations for guests and employees to use free of charge. These charges were donated by Utah Leaders for Clean Air and Tesla. To further reduce vehicle emissions, Snowbird has been working on creating the R.I.D.E app for a number of months. This encourages skiers and workers to take public transportation or carpool to the resort to earn points and earn prizes along the way. Additionally, Snowbird, CLIF, and GreenNotes all introduced Frontside Sessions this year which brought climate issues to attention with riders. In order to attend an exclusive concert on the tram, the public had to take a pledge to be more sustainable.

Other Progress

While Snowbird has had a strong environmental ethic since its start in 1971, the sustainability program was formally founded in 2016. Under the sustainability program, Snowbird now focuses environmental efforts on how it will affect one of the following categories: reduce, improve or engage. Our goals are to reduce carbon emissions and waste, improve water and air quality, and engage with the community through education and advocacy around climate change. Please see Attachment 1 for more information.

Since 2016, Snowbird has made some significant changes to the resort. These include the creation of the R.I.D.E. program to encourage and incentivize carpooling and taking the bus, Electric Vehicle charging stations free for guests and employees, glass recycling at Snowbird, the initiation of a water conservation program and partnership with Slow the Flow, the creation of a sustainability program internship with University of Utah and Westminster College, continuance of tree planting with Tree Utah, and increasing our participation and support of Protect Our Winters and Rock the Vote through our new music endeavor with CLIF GreenNotes, Frontside Sessions.

While there has been a lot of improvements throughout the resort, there is still more work to be done. Snowbird continues to be proud to support and participate in the NSAA Climate Challenge and would like to find a way to encourage other ski areas to join as well.



Steamboat Ski & Resort Corp. – Colorado

INVENTORY CY 2017	MTCO _{2e}	TARGET
Scope 1 & 2 (Req)	12,100	Steamboat will reduce emissions by 5% under 2014 levels by 2020
Scope 3 (Solid Waste)	570	
Total	12,600*	

*Scope 1, 2, and 3 may not add up to total due to rounding

Reduce

Steamboat Ski & Resort Corp. developed an LED lighting replacement program which reduced electricity consumption by 1,275 kWh.

Other Progress

Steamboat continues to work with our local utility company on installing smart meters at the resort. These smart meters will improve our ability to see real-time electrical use. Furthermore, an error in reported natural gas numbers has led to a recalculation of its usage from 2014-2017. This recalculation will help provide a strong baseline with which to evaluate future efficiency projects.



Stratton – Vermont

INVENTORY FY 2017	MTCO _{2e}	TARGET
Scope 1 & 2 (Req)	7,860	Stratton Mountain Resort will reduce emissions by 10% under 2014-15 levels by 2019-20.
Scope 3 (Solid Waste)	407	
Total	8,270*	

*Scope 1, 2, and 3 may not add up to total due to rounding

Reduce

Stratton changed the T8 lights to LEDs at the indoor tennis courts and pool area, worked with Efficiency Vermont to make sure the kitchen air handlers were properly calibrated and implemented a plan to review snowcat productivity and idling.

Other Progress

Stratton continues to be a steward of the environment in all facets. We continue to make improvements to the efficiencies of our snowmaking system and lighting upgrades throughout the resort and our buildings.

Late last Fall we made a substantial upgrade to the HVAC system at our Training & Fitness Center. We were able to remove a 300,000 BTU steam generator that ran all year long, a 300,000 BTU boiler, 4 large pumps and a blower motor. We have estimated that the efficiency improvements will reduce energy consumption considerably and improve our environment by saving an estimated 64,000 kWh of electricity, 12,800 gallons of propane per year, and 230,000 pounds of carbon emissions per year.

The U.S. Environmental Protection Agency has recently issued two certificates of achievement to Stratton Mountain, one for the resort’s composting initiative and another for comprehensive recycling programs. We utilize easily identifiable compost bins in convenient locations. In 2016 we diverted 18.40 tons of compost, 49.06 tons since we began this initiative in 2014 and a 7 ton increase from 2015.

At Wanderlust Yoga and Music Festival, one of our largest events, we were able to divert 29% of total waste to our compost facility and 51% of the total waste for recycling.

We are happy to announce that we have partnered with Protect Our Winters (POW) to further climate change education and advocacy.



Sugarbush – Vermont

INVENTORY FY 2017	MTCO _{2e}	TARGET
Scope 1 & 2 (Req)	3,540	Sugarbush will reduce emissions by 5% under 2011-12 levels by 2019-20.
Scope 3 (Solid Waste)	219	
Total	3,760*	

*Scope 1, 2, and 3 may not add up to total due to rounding

Reduce

Sugarbush continued LED lighting upgrades in various locations throughout the resort and made additional upgrades to refrigeration and air conditioning resulting in lower electrical usage.

Other Progress

- Through upgrades to snowmaking technology Sugarbush has seen a reduction in energy consumption supporting ski area operations of approximately 28% since 2013.
- In 2016 we entered into a partnership with Green Lantern Capital of Waterbury, Vermont to support the development of solar energy in Vermont. Sugarbush purchases net meter credits from Green Lantern which provides an economic incentive for solar power generation in the state and allows Green Mountain Power to provide clean energy to its customers.
- In 2017 we partnered with Tesla to install 13 Electric Vehicle (EV) Charging stations in the Lincoln Peak base area. We aim to add more EV charging stations to the Mount Ellen base area and other key resort locations in the future.
- In the past few years Sugarbush has seen a reduction in solid waste. Since 2013 our diversion rate has increased from 30% to 35%. We compost in our food and beverage outlets as well many of our administrative offices and educational programs. We continue to recycle waste oil, rubber, electronic waste and scrap metal.
- Sugarbush continues its partnership with Green Mountain Transit (GMT) by providing free winter public transportation between our two mountains and throughout the Mad River Valley.
- Resort housekeeping is committed to using non-toxic cleaning supplies. Resort supplied toiletries are biodegradable and packaged in biodegradable and/or recyclable material. The resort linen program offers an optional reuse program to guests and housekeeping staff is trained to turn off lights and televisions in unoccupied rooms
- The Safety, Environment and Wellness (SEW) Committee has made great strides in supporting employee recommended improvements in its three areas of focus. Improvements and initiatives include:

- Commuter Challenge initiative which encourages employees to commute using alternative methods of transportation
- Resort Green Up Day where employees get out together and “green up” the resort property and surrounding area
- Formalization of a resort wide No Idling Policy
- Installation of 2 water bottle filling stations and in the Gate House Lodge with reusable cups to accompany the filling station in the Gate House Cafeteria
- “Trash Talkers,” volunteers and staff who coach guests on how to recycle/compost and sort their trash properly
- Reduced the use of plastic straws in Food and Beverage outlets in collaboration with the F & B department

Sugarbush Resort is committed to preserving and improving the natural environment in which it is located. The resort has undertaken many projects to combat climate change and reduce our environmental impacts, from making significant financial investments in low-energy snow guns and LED lighting to utilizing toxin-free cleaning supplies across the resort as well as implementing storm-water remediation projects. We partner with many local, state and federal organizations including the U.S. Forest Service, VT Agency of Natural Resources, Friends of the Mad River, Mad River Path Association, Green Mountain Club and the Catamount Trail Association. Timbers Restaurant is a member of 1% for the Planet, a collection of business pledging one percent of revenues to environmental causes.

TAOS

Taos Ski Valley – New Mexico

INVENTORY CY 2017	MTCO _{2e}	TARGET
Scope 1 & 2 (Req)	3,020	Taos Ski Valley will reduce emissions by 20 percent under 2014 levels by 2020.
Scope 3 (Solid Waste)	NR	
Total	3,020*	

*Scope 1, 2, and 3 may not add up to total due to rounding

Reduce

Taos Ski Valley purchased 20 high efficiency HKD snowguns, 10 impulse and 10 vipors, which allowed it to take five high energy requiring snowguns out of the current fleet. Overall this reduction effort has decreased emissions by 102 MTCO_{2e}.

Other Progress

Taos Ski Valley is undergoing a major revitalization since coming on under new ownership in 2014, our baseline year for the NSAA Climate Challenge. An overview of our journey, detailed below, helps to explain our GHG emission increase over the past 4 years and steps we are taking to reduce our footprint.

2014

- Purchased the Bavarian Lodge

2015

- Added a new triple chair lift to our highest in-bounds peak with a patrol station built at the top of it
- Erected a sprung structure
- Unveiled an employee shuttle program resulting in taking approximately 130 cars off the road each day during ski season

2016

- Construction begins on resort's first hotel property

2017

- The Silver LEED certified Blake Hotel opened to guests
- Two electric car charging stations were installed
- Property expansion occurred to accommodate employee housing needs
- The beginner hill was recontoured to make it more beginner friendly
- Natural gas was brought into the valley, replacing propane as a major fuel source and decreasing overall emissions
- Replaced two snowcats with final TIER 4 models resulting in most of the fleet being TIER 4 models which is 10-15% more fuel efficient
- Major renovation of Children's Center
- Replaced two antiquated lifts on beginner hill with a pedestrian gondola and a triple chair

- Introduced automation to snowmaking system by adding phase 1 of Snowmatic
- Purchased 20 high efficient HKD snowguns (10 impulse and 10 vipers) replacing 5 high energy snowguns

2018

- Removal of two antiquated lifts. Replacing our base area quad lift with the area's first high speed quad.
- Major renovation to the Phoenix facility
- Upgrade to The Bavarian facility
- Renovation of administrative offices
- Renovation of sprung structure
- Adding to our snowmaking capabilities by extending the system to the top of Chair 4
- Purchasing 30 more additional high efficient HKD impulse snow guns
- Adding additional locker space for guests
- Renovations to public bathrooms in main resort center
- Purchase of food digester which converts food waste into soil amendment
- We have updated our fleet of utility and mountain trucks purchasing newer and more fuel efficient models and reducing the number of vehicles from 65 in 2015 to our current number of 48.
- Additional buildings will begin to be built out with LED fixtures and occupancy sensors standard in all buildings

Throughout this revitalization and expansion, we have kept a focus on sustainability and are continually looking to implement green practices. As detailed above, we continue to invest in energy efficiency measures ranging from:

- New energy-efficient snowmaking guns (which have increased in usage due to erratic and low snowfall)
- Replacement of two snowcats to final TIER 4 models
- Increase natural gas and decline propane usage
- Outfitting facilities with LED fixtures and occupancy sensors as they undergo renovations/are built



Telluride Ski Resort – Colorado

INVENTORY CY 2017	MTCO _{2e}	TARGET
Scope 1 & 2 (Req)	6,300	Telluride Ski Resort will reduce emissions by 8% under 2017 levels by 2025.
Scope 3 (Solid Waste)	not reported	
Total	6,300*	

*Scope 1, 2, and 3 may not add up to total due to rounding

Reduce

Telluride Ski Resort installed more efficient, low-energy snowguns and new weather stations designed to allow snowmaking to be operated remotely. Furthermore, Telluride purchased the Mountain View apartment building for employee housing along the public transportation corridor to increase employee commuting opportunities.

Other Progress

TSG’s environmental initiatives and stewardship are an ongoing process that includes the pursuit of knowledge and collaboration with the USFS. TSG continually pursues the latest in technology to make decisions based on the most efficient and sustainable options available. Advances in technology have enabled TSG to change every day processes resulting in a reduction of the consumption of paper. The Mountain Operations department has been able to automate the snowmaking processes and reduce the amount of fuel required to travel on the mountain. TSG also recognized an important opportunity that enabled them to provide employee housing located at the base of the ski area. The ski area works closely with the USFS to monitor and manage the forest health within the permitted area. These efforts include noxious weed control, spruce beetle mitigation, and overall forest health. TSG assesses all available opportunities and bases its decisions on making sure the efforts are sustainable environmentally friendly.

Indirect Emissions Reduction

Administration

Over three years ago, our accounting department started the process of becoming paperless. Since that time, the company has reduced the paper consumption by approximately twenty-four tons. The paperless process continues to be refined and is expanding into other departments with new advances in technology.

Employee Housing

Telluride Ski and Golf focused its energy and funding in 2017 on the rehabilitation of an existing building, Mountain View Apartments, located at the base of the ski mountain to create 30 employee housing units. The building was vacant for years and an eyesore in the Town of Mountain Village. TSG acquired the building to create new employee housing that is conveniently located next to free public transportation. Not only can employees utilize the public transportation to commute to work, it also gives access to the entire

community. The proximity of the units to the local trail system encourages alternative forms of transportation including walking, hiking, biking, and even skiing! The Mountain View Apartments were carefully planned and executed to be both comfortable and energy efficient. TSG used LED lighting for the interior and exterior of the building. The faucets and showerheads are low flow and the toilets are low flush. TSG installed new energy star appliances and combination boilers in each unit. Combo-boilers provide both hot water and heat to each unit using natural gas powered fan coils. The apartment building siding is all recycled wood and rolled metal, giving the building a modern look and maintaining strict environmental and sustainable standards.

USFS Stewardship and Management on the Ski Area

Noxious Weed Control

TSG collaborates with the USFS for all treatment of noxious weeds present within the permit area. This ensures that TSG remains compliant with all applications and aids in the continued monitoring of noxious weed growth and treatment programs year after year. Through the growing season TSG Operations communicates any new or advancing areas of noxious weeds as well as continued training of personnel to not only be able to identify noxious weeds, but procedures to prevent the spread and/or introduction of noxious weeds on the mountain.

Spruce Beetle Mitigation

TSG has engaged in spruce beetle mitigation for over 15 years with the guidance and aid of the USFS. Monitoring continues around the Ski Area to identify areas where the spruce beetle is present and the effectiveness of mitigation tactics. Currently TSG is working with the ski area to continue to debark wind thrown spruce trees and identify areas to set “trap trees” on the Mountain.

Forest Health

Telluride Ski and Golf, recently worked with the USFS to fund a Vegetation Management Plan for the forest within the permit area. This Plan along with SBEADMR (Spruce Beetle Epidemic, Aspen Decline Management Resolution) are used as a guide for all current and future work within the forest on the Ski Area including all future improvements to skiable terrain and trail corridors. A portion of forest within the permit boundary has also been used as a test site to show different management techniques for creating defensible space around homes and wildland fire mitigation techniques in the forest. Plans are to continue this work and implement more wildland fire mitigation techniques around the ski area infrastructure and terrain.

Timberline Lodge

INVENTORY CY 2017	MTCO _{2e}	TARGET
Scope 1 & 2 (Req)	5,030	Timberline will reduce emissions by 5% under 2017-18 baseline levels by 2023-24.
Scope 3 (Solid Waste)	NR	
Total	5,030*	

*Scope 1, 2, and 3 may not add up to total due to rounding

Reduce

Timberline Lodge performed a lighting retrofit in the Mountain Maintenance Shop, replacing T12 light fixtures with T8 fixtures. This retrofit reduced electricity consumption by 5,934 kWh.

Other Progress

In addition to our Climate Challenge Inventory-Target-Reduce activities this year, we have been working to change the overall perception of sustainability across all aspects of our operations. Department heads in Food and Beverage, Overall Operations, and Mountain Operations have been implementing new educational programs and guidelines to help their departments reduce their environmental impacts.

Our Food and Beverage Managers have been striving to source products as locally as possible to reduce emissions generated by deliveries to supply our 7 food venues. Examples of this include: raising and processing our own grass fed beef for everything from hamburgers in the cafeteria to premium-cut steaks in the finer dining venues; sourcing beverage products such as coffee, tea, and juice from local processors; working with local farmers to secure seasonal, organically grown produce; and seeking out locally, sustainably-produced wine.

In the past year, we have implemented a number of new programs to reduce our paper consumption by converting to electronic systems. These include electronic Purchase Orders, Invoices, Liability and Release Forms, and Accident Reports. Employees are strongly encouraged to use our direct deposit program in lieu of paper checks.

The Mountain Operations Directors have placed new recycling bins in strategic places on the ski hill and have educated on-hill employees to encourage guests to use them properly in order to reduce waste and litter. Additional education for all employees regarding our recycling and waste handling policies has been included in the Employee Handbook as well as New Employee Orientation and Annual Employee Refresher Training. Also, all pass holders were educated on the importance of keeping our mountain clean by recycling and respecting our waste handling facilities.

Finally, we are creating a new, dedicated full-time position for Sustainability Manager to work across all departments in order to develop and implement additional programs and bring unity to our sustainability efforts.

Tremblant Ski Resort

INVENTORY CY 2017	MTCO _{2e}	TARGET
Scope 1 & 2 (Req)	3,330	Tremblant Ski Resort will reduce emissions by 5% under 2017 levels by 2022.
Scope 3 (Solid Waste)	1,540	
Total	4,870*	

*Scope 1, 2, and 3 may not add up to total due to rounding

Reduce

Tremblant Ski Resort extended the collection of compost in resort restaurants, reducing waste emissions by 50 MTCO_{2e}. Tremblant also replaced a TIER 2 snowcat with a more eco-friendly TIER 4 and formed an eco-driving program.

Other Progress

Tremblant is very proud to have crossed an important milestone in its continuous efforts and objectives in sustainable development and eco-responsibility.

To assist us in developing actions plans to ensure that this culture continues for many years, we've teamed up with the Conseil Des Industries Durables CID (French only website) a non-profit organization that ensures the integrity, transparency and coherence of sustainable development in communities and industries.

Tremblant selected the CID for its methodology in implanting roadmaps for continuous improvements to integrate and progressively enforce eco-responsible management practices and for its support in providing an expert in sustainable development who will accompany us throughout this process.

The Eco-responsible certification is an integrated global approach using best practices and principles in sustainable development. The CID proposes a 4-level certification program: Engagement, Performance, Optimum and Elite.

For us, this process began several months ago with the creation of an eco-committee dedicated to developing a solid and measurable plan which would be the basis for a permanent and long term eco culture shared amongst its team members, guests and suppliers.

The CID awarded a level 1 ENGAGEMENT certification based on the charter and 5-year plan created by our eco-team. The plan includes 4 major directing axes based on issues that are closest to our hearts and environment.

- Reduction in greenhouse gas effects
- Raw materials and residual management
- Product and service quality
- The impact on regional economic development

Each of these axes has its own set of objectives and action plans which will be deployed over the next years.

Our entire team is extremely proud of this important certification and we encourage our entire industry to follow the movement.

Follow our blog or consult the web site to learn more about our Eco-projects and actions we can all participate in.

1.3 Next Steps for the Climate Challenge

The Climate Challenge continues to grow with new Challengers participating each year. As the Challenge enters its eighth year, the program continues to evolve and grow. The 2018-2019 season presents new opportunities to evaluate the current status of the program, share sustainability best practices with resorts, and continue to explore opportunities for resort benchmarking. It also presents opportunities to welcome new non-resort participants to the challenge and test out tracking and reporting tools on their operations.

Moreover, the time horizon for many targets is coming near, with many of the original targets set for 2020. This year it will be important for those resorts to evaluate progress to-date and look for opportunities to establish new targets and enhance their climate and sustainability commitments.