



# 2019 Sustainability Report



ARAPAHOE BASIN  
COLORADO



# Contents:

LETTER FROM SUSTAINABILITY TEAM....3

POWER TO SAVE THE POWDER....4

ROADMAP 2025: CARBON NEUTRAL....5

100% Renewable Electricity.....6

75% Waste Diversion.....8

Carpooling and Public Transportation.....9

Ecosystem Stewardship & Wildlife Management.....10

No Net Increase in Water Use.....11

Centralized Purchasing.....12

PROJECTS AND ACHIEVEMENTS....13

PARTNERS....14

(WE ALL HAVE THE)  
POWER TO SAVE THE POWDER....15

## ARAPAHOE BASIN ENVIRONMENTAL POLICY

As stewards of an exceptional mountain environment, Arapahoe Basin Ski Area is committed to providing quality outdoor recreation experiences. Our staff and guests realize that Arapahoe Basin is a priceless natural treasure. We strive to continually improve our environmental performance in order to provide enjoyment of Arapahoe Basin for future generations of snow and mountain enthusiasts.



# Greetings, Snow Huggers!

Welcome to Arapahoe Basin's annual sustainability report. The 2019 report overviews a number of the best parts of A-Basin's sustainability program—hitting the highlights rather than detailing every single one of the projects, programs and people. It is designed to provide a glimpse into all aspects of the ski area's efforts to reduce environmental impacts, and to shed light on some of the motivation behind A-Basin's sustainability program.

***"We have the power to save the powder!"***

It's been a slogan of A-Basin's Sustainability Team for years now; in 2019 it has taken on a new meaning. Beginning in the spring of 2018, A-Basin's leadership met with a sustainability consulting firm to create a strategic sustainability plan for the ski area. The plan is meant to work alongside the ski area's overall master development plan and laid out an effective roadmap to meet some very aggressive sustainability goals. The plan, and subsequent goals, is having sweeping effects on the way the ski area operates and will ultimately lead to A-Basin becoming completely carbon-neutral by 2025!

Already one year into implementation, this plan and its 7 Goals in 7 Years are making serious progress. Significantly more renewable electricity is flowing through the power lines that lead to the ski area, while fewer and fewer trips to the dump happen each and every month. More people are carpooling and riding the bus, while less water is needed to keep the kitchens cooking and toilets flushing. The Beavers and Steep Gullies remain a shining example of responsible ski area development and ecosystem stewardship efforts, and A-Basin's purchasing process becomes more efficient every season.

Be sure to read on to discover the meaningful ways Arapahoe Basin is tweaking its business model to address important sustainability concerns at the mountain and well beyond its boundaries.

Even better, come check out what A-Basin is doing on-site the next time you visit—and don't let our message fall on deaf ears! Join us, because we can all do simple things to walk lighter on the planet—even in our ski and snowboard boots!

Thank you from the A-Basin Sustainability Team,

Mike Nathan, Sustainability Manager  
Sha Miklas, Sr. Manager of Guest Services and Sustainability  
Alan Henceroth, Chief Operating Officer





# Power to save the Powder

## ROADMAP 2025: 7 SUSTAINABILITY GOALS IN 7 YEARS

During the spring and summer of 2018, the Arapahoe Basin sustainability team, senior leadership team and a third-party sustainability consulting firm—The Brendle Group—met to establish a new direction for A-Basin's sustainability and master development plans. What began with a survey that highlighted A-Basin employees' desire to grow the sustainability program quickly grew into this new sustainability strategic plan, establishing 7 sustainability goals to be achieved in 7 years, by 2025, culminating in becoming a completely carbon free ski area!

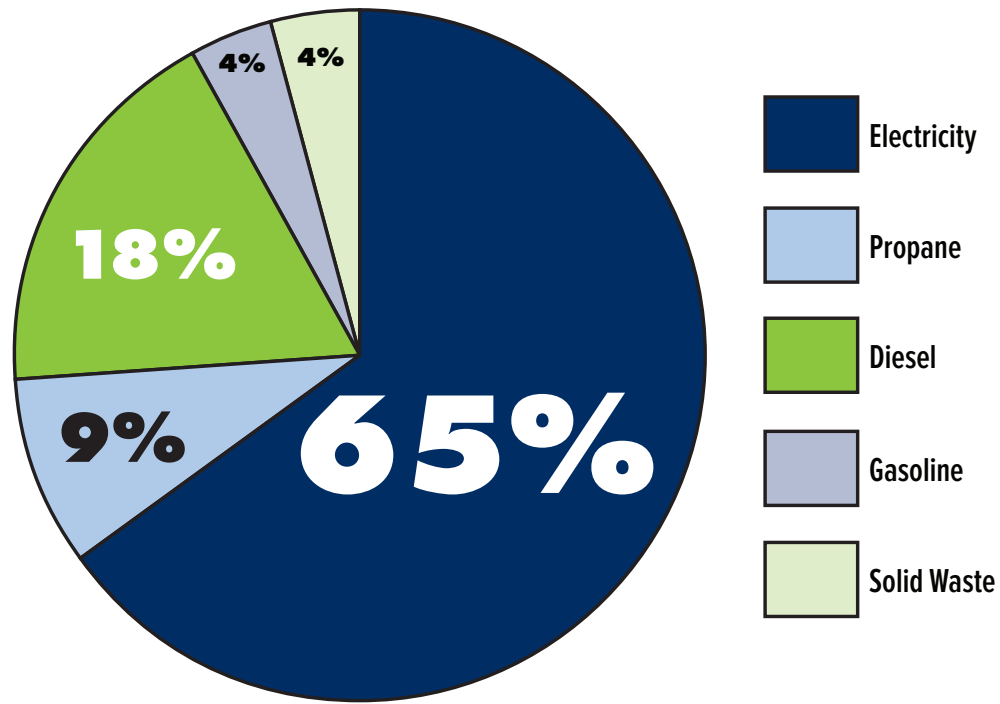
We are excited to begin this challenging endeavor and we will need your help. Visit us on our sustainability website [arapahoebasin.com/sustainability](http://arapahoebasin.com/sustainability), follow #sustainabilitiesunday on our social media outlets, or better yet—find us at the ski area, to see how you can get involved and track our progress!



# Carbon Neutral by 2025

Every ski area relies on a variety of resources to keep the lifts turning, snowcats grooming, and hot chocolate flowing. A-Basin continues to track resource use in order to see progress and discover inefficiencies.

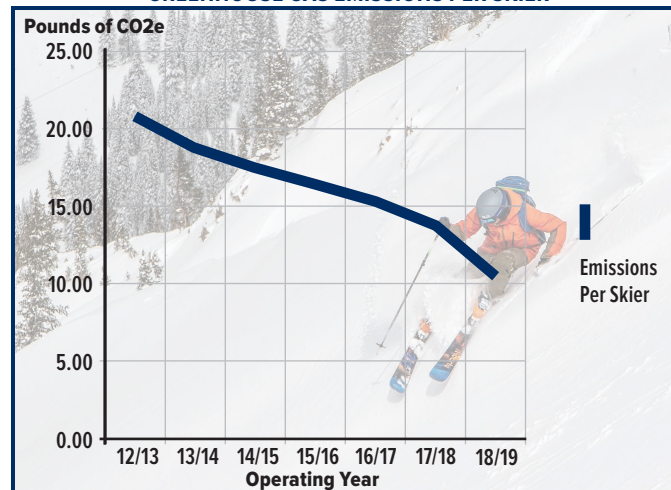
CUMULATIVE CARBON EMISSIONS—GREENHOUSE GAS EMISSIONS BY SOURCE



With the implementation of this strategic sustainability plan, and the seven goals highlighted in these pages, A-Basin now has a realistic roadmap to achieve completely carbon neutral operations by 2025.

The goals that follow all have significant bearing on the success of this overarching goal of Carbon Neutrality. Please read on to learn about our 7 Goals in 7 Years and to catch a glimpse into a few of the projects, partners, and initiatives that will help us get there.

GREENHOUSE GAS EMISSIONS PER SKIER





# Roadmap 2025: 100% Renewable Electricity

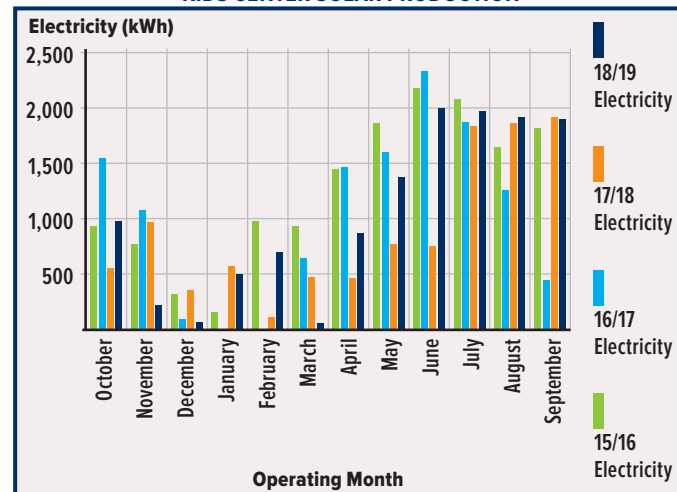
Perhaps the most significant of our 7 Goals, achieving 100% Renewable Electricity will get us closer to Carbon Neutrality than any of our other goals or initiatives. As such, renewable electricity has become a centerpiece in A-Basin's sustainability model, with both on-site solar arrays and utility and community-scale projects all contributing to The Basin's renewable energy portfolio.

The 13.5 kW Kids' Center solar array, installed in 2015, provides about 20% of the building's electricity needs and compliments the sustainable-building measures in place in the Kids Center.

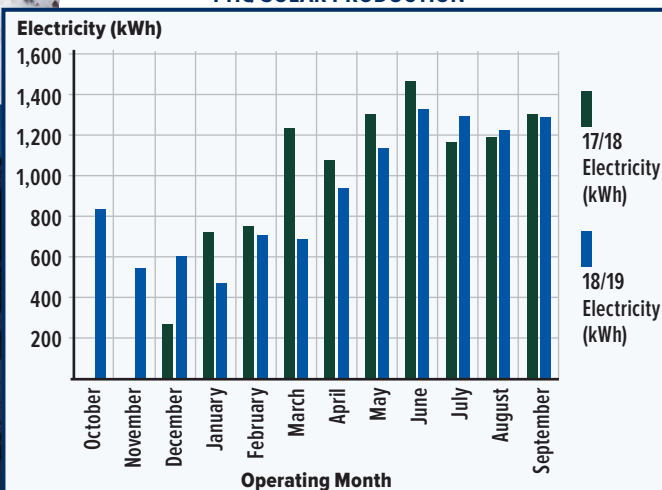
At 12,456', the 8.25 kW Snowplume solar array not only provides more than 90% of the building's needs, including the electricity usage at Il Rifugio—our European-inspired mountaintop bistro—and ski patrol headquarters, it is also the highest ski area-based renewable energy project anywhere in the world!

A-Basin also partnered with Xcel Energy to acquire 20% of its overall electricity needs from a utility-owned solar farm in Deer Path, CO—enough to power the entire snowmaking operation and a portion of chairlifts' electricity needs.

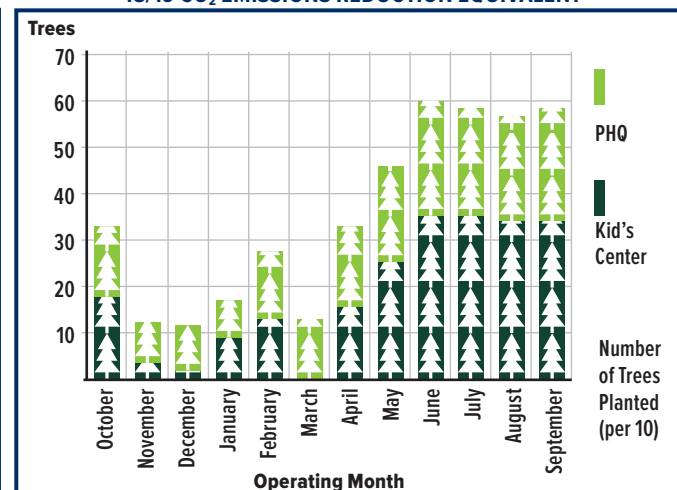
KIDS CENTER SOLAR PRODUCTION



PHQ SOLAR PRODUCTION

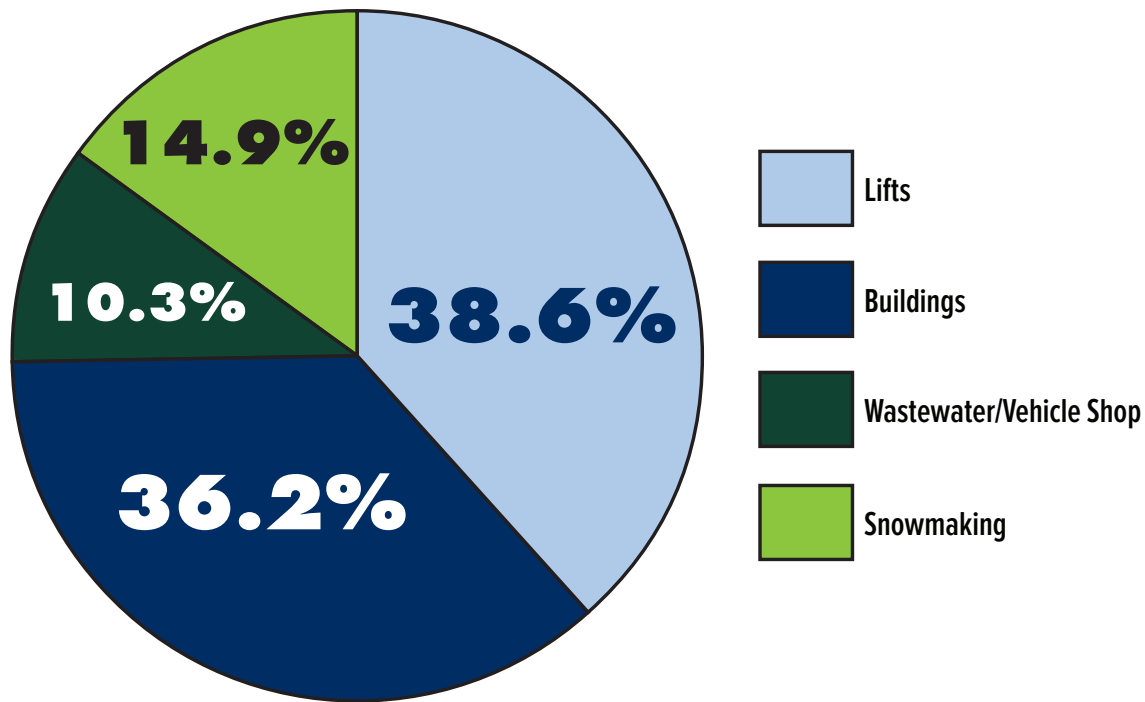


18/19 CO<sub>2</sub> EMISSIONS REDUCTION EQUIVALENT



Notes:  
Planting one tree offsets the same amount of carbon emissions as generating 55.3 kilowatt-hours of electricity through renewable sources like solar

ELECTRICITY USE BY FUNCTION: PERCENTAGE



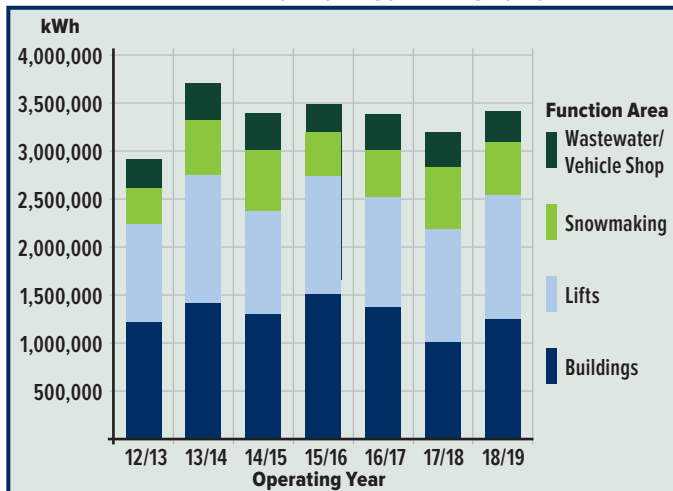
Electricity is used primarily to turn chairlifts, which run on fully electric motors 99% of the time, and to heat and power buildings. A significant amount of electricity also goes towards powering on-site water and wastewater treatment facilities.

In addition to sourcing more and more of its electricity needs from renewables, A-Basin also continually works to reduce their overall energy needs through better behavior and more efficient equipment.

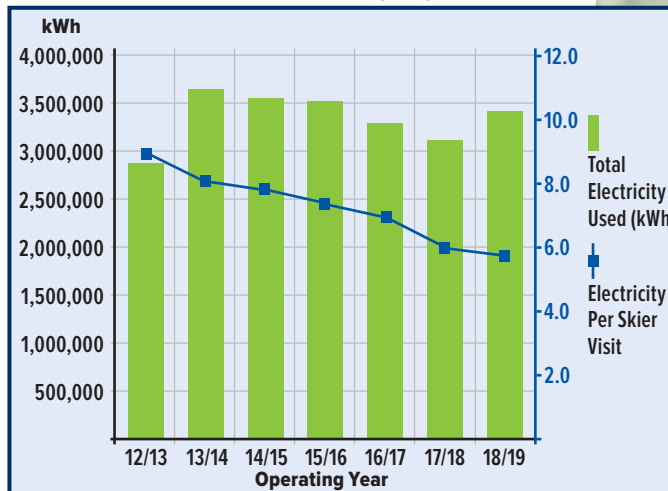
TOTAL SOLAR PRODUCTION BY SEASON

SEASON	KC	PHQ	TOTAL
15/16	15,175 kWh	0	15,175 kWh
16/17	12,309 kWh	0	12,309 kWh
17/18	10,510 kWh	10,504 kWh	21,014 kWh
18/19	12,505 kWh	11,061 kWh	23,566 kWh

AREA-WIDE ELECTRICITY USE—BY FUNCTION



AREA-WIDE ELECTRICITY

**Notes:**

Snowmaking designation here also includes some non-snowmaking usage (Molly's Magic Carpet lift, the top lift shack of Molly Hogan lift, Patrol Headquarters building, and the top lift shack for Lenawee lift)



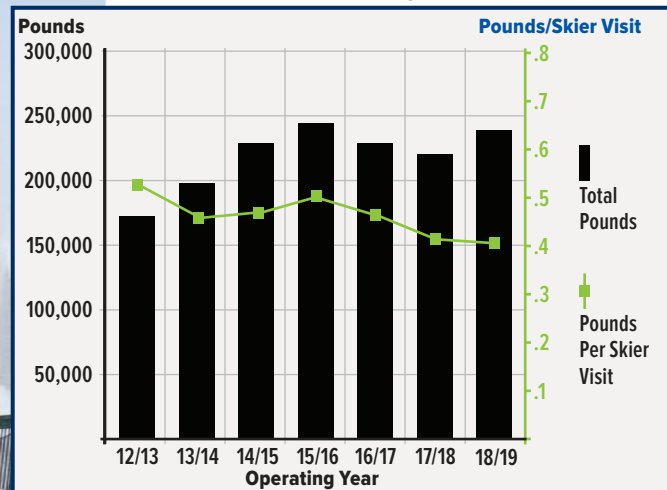


# Roadmap 2025: 75% Waste Diversion

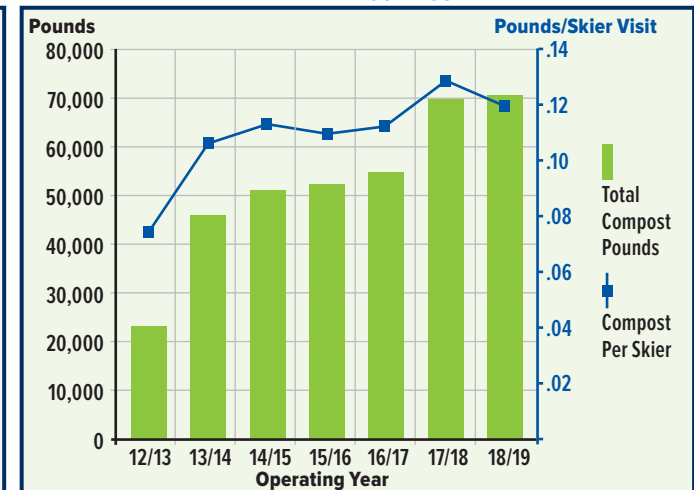
Solid waste—aka the trash we send to the landfill—only accounts for about 4% of our overall greenhouse gas emissions. However, waste reduction is an accessible way to get involved in sustainable action and a significant focus in our Summit County community.

Recycling and composting bins are provided wherever waste bins are encountered. Staff are encouraged to bring compost and recycling from home, and unique strategies are employed to divert any and all material we can from the landfill.

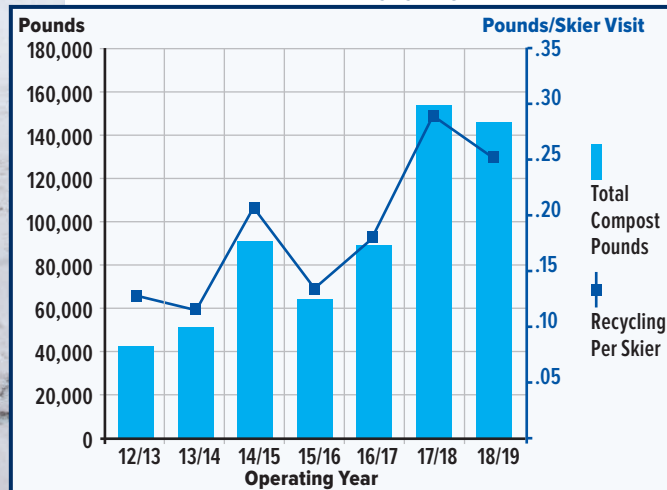
AREA-WIDE WASTE



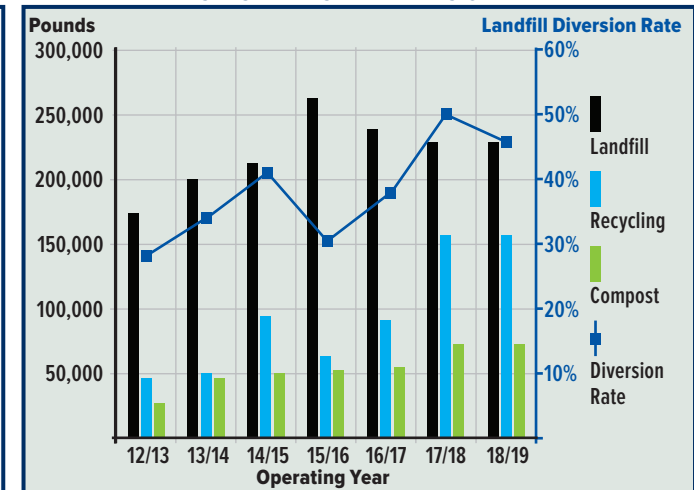
AREA-WIDE COMPOST



AREA-WIDE RECYCLING



WASTE STREAMS AND DIVERSION RATE

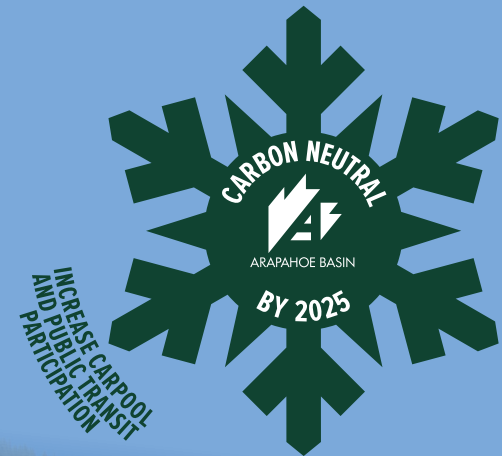


# Roadmap 2025: Carpooling and Public Transportation

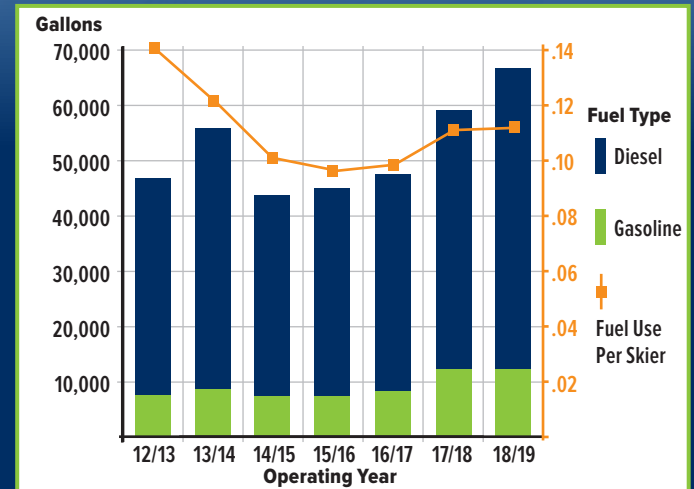
Arapahoe Basin strongly encourages guests and employees to ride the Summit Stage—Summit County’s free bus system—or to carpool to the ski area. Lift ticket discounts and premium parking spaces are available to guests who do so. Employees are required to carpool or ride the bus to work on Saturdays and Sundays.

In an effort to reduce A-Basin’s fuel consumption and transportation-related emissions, a no-idling policy is in place at the ski area. Innovative grooming techniques and vehicle sign-outs and logs also help keep fuel-usage low.

Starting in 2019, A-Basin also began partnering with the Colorado Carbon Fund to offset all of the ski area’s fuel-related emissions. The CO Carbon Fund supports forestry, renewable energy, and farming projects here in Colorado that help reduce emissions at the source as well as sequester carbon already in the atmosphere.



AREA-WIDE FUEL USE





LEAD IN ECOSYSTEM  
STEWARDSHIP &  
WILDLIFE MANAGEMENT



## Roadmap 2025: Ecosystem Stewardship & Wildlife Management

Ecosystem stewardship and wildlife management have always been priorities at A-Basin. A Golden Eagle award from the NSAA recognized the extra efforts put in place during the Montezuma Bowl expansion and recently, during the ski area's expansion into The Beavers and Steep Gullies, those efforts were renewed yet again.

Perhaps most significant was the absence of traditional heavy machinery throughout the construction process. A helicopter, with the help of countless trips on foot, was used to take things in and bring them out—avoiding the need to build any roads whatsoever. Special attention was paid to alpine tundra and the tiny plant communities that make the above treeline environment so sensitive. Crews never took the same path twice to avoid trampling, and virtually none of the small trees found in the krummholz zone were touched during the logging process.

Always a collaborative effort, the US Forest Service worked with A-Basin teams to identify 'allowances' for cutting in designated areas where skiing

improvements were needed. These allowances identified 20% of total tree density as a suitable number for cutting. In reality, much less was taken, often less than 5%. Instead crews opted for 'limbing' rather than cutting, leaving trees intact while trimming the lower branches that impact ski-ability, and always maintaining valuable wildlife habitat like dead snags and important weather breaks.

Snowmaking water diversions can also have an impact on local stream conditions. When installed in 2002, A-Basin's snowmaking system went through a rigorous approval process that stipulated when and how much water could be drawn. A-Basin continues to follow those stipulations, with water diversions often far below their allotment. A-Basin has also continued its monitoring program and reports stream conditions in the North Fork of the Snake River are healthy and continue to support a diverse population of fish, including Brook and Cutthroat Trout, and many micro and macro invertebrates.



# Roadmap 2025: No Net Increase in Water Use

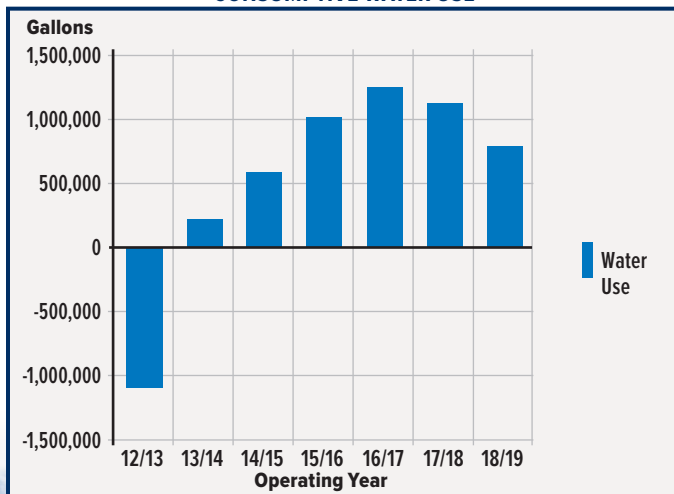
Arapahoe Basin is home to two on-site drinking water treatment facilities and one on-site wastewater treatment facility. Water is processed at BML and beneath the A-Frame for drinking, cooking, dish washers, toilets and hand wash sinks. While a necessity, much of the infrastructure behind these services was aging and inefficient, thus using much more than necessary. Through a number of recent upgrades, A-Basin is confident that consumptive water use will not

only stay flat despite continued increases in business volume and length of season, but will actually begin to noticeably decrease.

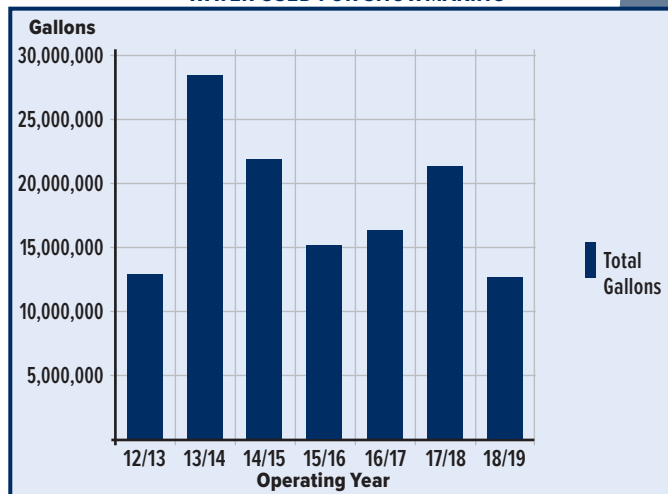
Highly efficient dishwashers in the kitchen, waterless urinals, and low-flow toilets and faucets are just a few of the water saving pieces of equipment being installed at the mountain as we speak.



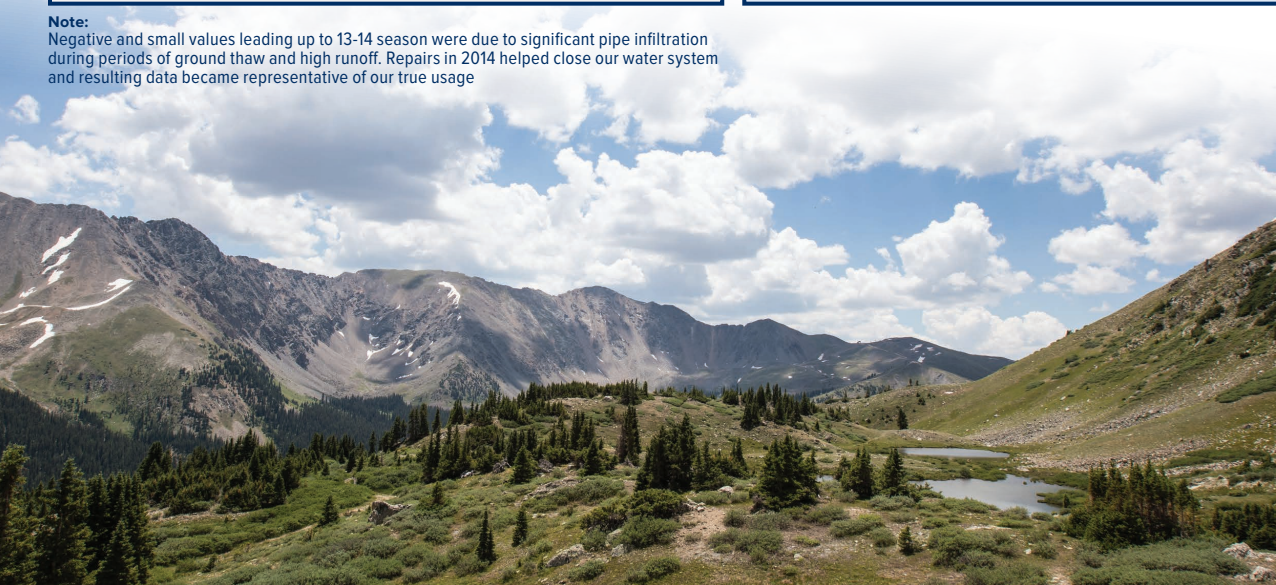
CONSUMPTIVE WATER USE



WATER USED FOR SNOWMAKING



**Note:**  
Negative and small values leading up to 13-14 season were due to significant pipe infiltration during periods of ground thaw and high runoff. Repairs in 2014 helped close our water system and resulting data became representative of our true usage





## Roadmap 2025: Centralize Purchasing

Centralizing Purchasing will be an important tool to leverage a number of the other goals you've just read about. A more streamlined purchasing process will reduce fuel-usage by limiting the number of delivery trucks coming to and from the ski area. It will also save on packing and shipping-related waste, which is a significant source of non-recyclable plastics at the ski area. Also, a more centralized purchasing process

will allow A-Basin to flex its purchasing power in an attempt to improve sustainability within supply chains.

A-Basin has a sustainable purchasing policy in place that allows purchasers to spend more to get better, more sustainable products. Also, buyers in the retail and rental shops have created a letter to vendors stressing the importance of sustainability in their purchasing decisions.



# PROJECTS AND ACHIEVEMENTS

## LIGHTING RETROFIT

In 2012 A-Basin completed a comprehensive lighting retrofit to upgrade our existing and aging infrastructure to more modern and efficient technology, at the time, mostly CFLs. This initial upgrade led to an estimated emissions reduction of close to 50 tons of CO<sub>2</sub> per year. In the years since, the ski area has revisited many of these updates to yet again improve their efficiency. Complete LED upgrades have taken place in the Lift and Vehicle Maintenance building, Black Mountain Lodge, Patrol Headquarters, and all outdoor lighted areas, resulting in significant energy savings.

## WASTE-OIL FURNACE

In 2014, a CleanBurn Technologies waste-oil furnace was installed in our lift/vehicle maintenance shop. The furnace can burn motor oil, hydraulic fluid, transmission fluid and a number of other engine wastes to heat our primary garage space. By collecting waste-oil and fluids from our fleet of trucks, snowmobiles, and snowcats, the auxiliary motors in our lifts, and a number of employee home-oil changes, we have been able to decrease this building's propane use by nearly 30 percent. By putting our waste-oil to use on-site, we also decrease our need to truck hazardous waste over Loveland Pass and to the Front Range for proper disposal. Not only does that limit the potential for a harmful spill on our sometimes treacherous mountain roads, but by our estimates,

we're keeping about 750lbs of CO<sub>2</sub> out of the atmosphere with each waste-oil recycling trip to and from Denver that we avoid.

## FREEAIR REFRIGERATION SYSTEM

In December 2015, an innovative new refrigeration system was installed in one of our walk-in coolers. The Freeaire System monitors the temperature inside the cooler, as well as outside the building, and when possible, cycles the outside air into the cooler to keep it cold. By taking advantage of our clean, cold air at 10,800', conventional refrigeration components like evaporator and condenser motors can remain idle. With less run time, these components accumulate far less ice build-up, decreasing our need for defrost cycles. The Freeaire system helps us run this cooler using up to 90 percent less energy.

## BLACK MOUNTAIN LODGE CONTROLS

During the summer of 2017, to go along with a suite of new energy efficient lighting and HVAC equipment, comprehensive building controls were installed at Black Mountain Lodge. The controls, which provide programmable settings as well as real-time monitoring for the building's lighting, HVAC system, water heaters and kitchen equipment allow the building managers to maintain a functional space while decreasing the building's energy needs by as much as 40%.

## 2018 SKI MAGAZINE AND NSAA GOLDEN EAGLE AWARD—HERO OF SUSTAINABILITY—SHA MIKLAS

In May 2018, Arapahoe Basin Senior Manager of Guest Services & Sustainability Sha Miklas received recognition from NSAA and Ski Magazine as Hero of Sustainability for her efforts in creating and leading the Arapahoe Basin sustainability program. Under her supervision, the program has steadily grown into one of the leading sustainability programs in the industry, equally encompassing high level capital projects as well as everyday behavioral changes among staff and guests.



## 2017 SUMMIT COUNTY RESOURCE WISE PROGRAM—SILVER BUSINESS

Arapahoe Basin is the first and currently the only ski area in Summit County to receive the designation of silver-level business in Summit County's Resource Wise Program. This program is a partnership of county government, the Towns of Breckenridge, Dillon, Frisco and Silverthorne and the High Country Conservation Center. It recognizes business that positively impact our community by reducing carbon emissions, energy use, and waste, and by improving recycling, composting and green purchasing practices.

## 2017 COLORADO ASSOCIATION FOR RECYCLING—OUTSTANDING BUSINESS RECYCLING PROGRAM

In June 2017, Arapahoe Basin received recognition from the Colorado Association for Recycling for the ski area's efforts in developing its recycling program. This award is bestowed upon the Colorado business that best exemplifies strong commitment, innovation and leadership in waste reduction.

## 2014 NSAA GOLDEN EAGLE AWARD—WASTE REDUCTION

Recent waste reduction efforts at the ski area have paid off in a big way. In 2014, the National Ski Areas Association and Ski Magazine awarded Arapahoe Basin with a Golden Eagle Award for environmental excellence in recognition of these efforts. Through education and improved signage in cafeterias and around the mountain, A-Basin was able to divert more than 50 tons of recyclable and compostable waste from the landfill over the past two ski seasons.





Arapahoe Basin began its partnership with HC3 in 2008 with the introduction of the Snow Huggers Club and the Save Our Snow celebration. More than \$80,000 has been raised through Snow Huggers programs, all of which has benefitted the nonprofit. The Snow Huggers Club provides members with exclusive discounts at A-Basin facilities while the Save Our Snow Celebration is our yearly event focused on educating our guests, building collaboration, and having fun! The event includes a green village of our environmental partners, an on-snow gear demo, a prize drawing and silent auction, and live music. In addition to funds raised through the auctions and demo, A-Basin donates a dollar for each skier at the mountain that day.



**HIGH COUNTRY**  
CONSERVATION CENTER



## PARTNERS

**HIGH COUNTRY CONSERVATION CENTER** is a non-profit organization dedicated to promoting practical solutions for waste reduction and resource conservation in our mountain community. High Country Conservation Center works with residents, businesses and schools in areas including waste reduction, energy efficiency and clean energy and sustainable food production.

[HIGHCOUNTRYCONSERVATION.ORG](http://HIGHCOUNTRYCONSERVATION.ORG)

**PROTECT OUR WINTERS** unites and mobilizes the snowsports and outdoor communities against climate change. POW focuses on youth education, climate advocacy and community activism. Every guest can be a part of the solution by reducing their carbon footprint, supporting strong climate policy, and being a vocal advocate against climate change.

[PROTECTOURWINTERS.ORG](http://PROTECTOURWINTERS.ORG)

**NATIONAL FOREST FOUNDATION** engages Americans in community-based and national programs that promote the health and public enjoyment of the 193-million-acre National Forest System and administers private gifts of funds and land for the benefit of the National Forests.

[NATIONALFOREST.ORG](http://NATIONALFOREST.ORG)

**THE COLORADO CARBON FUND** is dedicated to carbon reduction within our state, to ensure you have clean air, a sustainable water source, and healthy soils for generations to come.

[COLORADOCARBONFUND.ORG](http://COLORADOCARBONFUND.ORG)

**THE SUMMIT STAGE** is Summit County's free county-wide bus system that provides access to Arapahoe Basin from November through May. Guests who take the Summit Stage get dropped off right at the ski area and can receive lift ticket discounts for taking public transportation.

[SUMMITSTAGE.COM](http://SUMMITSTAGE.COM)

**EAGLE SUMMIT WILDERNESS ALLIANCE** was formed to raise cash and in-kind donations to help the Dillon Ranger District of the White River National Forest maintain the Summit County portions of the Eagles Nest, Ptarmigan Peak and Holy Cross Wilderness areas.

[EAGLESUMMITWILDERNESS.ORG](http://EAGLESUMMITWILDERNESS.ORG)

**COLORADO OPEN LANDS** is dedicated to preserving the unique open spaces of the Central Rockies, through land stewardship, public education and landowner consultation, to ensure and enhance the rural mountain character of our communities.

[COLORADOOPENLANDS.ORG](http://COLORADOOPENLANDS.ORG)

# (WE ALL HAVE THE) POWER TO SAVE THE POWDER

## MAKE A CLEAN GETAWAY

When buying your next car, pick the least polluting, most efficient vehicle that meets your needs. Maybe it's a hybrid that combines a gasoline engine with electric motors, or an innovative all-electric vehicle. More and more car manufacturers offer an electric vehicle as part of their production line, while vehicle charging stations pop up in more locations every year.

## DON'T BE A DRAG

Take your ski rack off your car and replace your snow tires with your regular tires at the end of the season. Both could save you six percent at the pump. A tune-up could boost your miles per gallon anywhere from four to 40 percent. A new air filter could get you 10 percent more miles per gallon.

## SHARE A RIDE

When heading to the mountain, carpool or take public transit or shuttles to help reduce greenhouse gas (GHG) emissions associated with your travel.

## BE AN EFFICIENT CONSUMER

Believe it or not, picking the right appliances, air conditioners and computers can make a big difference in reducing pollution from power plants. So look for the most energy-efficient models. You might have to spend a bit more up front, but you'll save on electricity bills.

## HAVE A BRIGHTER IDEA

Incredible improvements in lighting technology in recent years have made LED bulbs affordable and more efficient than ever. Not only do LEDs use far less energy than conventional bulbs, they also last more than 20 times as long, making replacements and

associated disposal unnecessary. Replacing a single 60W incandescent bulb with a comparable LED can save more than 1200 kWh over the life of the bulb, or about \$160.

## CONSIDER CLEANER ENERGY

If you live in a state that lets you choose your power company, pick one that generates at least some of its power from wind, solar or other clean energy sources. If you don't have the option to select a supplier yet, you might still be able to support renewable energy through an option on your electricity bill.

## STAND UP AND BE COUNTED

Contact your elected representatives and ask them to do more to reduce CO<sub>2</sub> emissions and keep winter cool for skiing and snowboarding. Be sure to vote in all local, state, and national elections.

## BE AN ADVOCATE

Become involved in grassroots environmental action. Find a cause that's meaningful to you and support it with your time and enthusiasm! Take the POW SEVEN Pledge at [protectourwinters.org](http://protectourwinters.org).

## SPREAD THE WORD

Tell your lift mates, family and friends!





## ARAPAHOE BASIN COLORADO

### EMAIL

[abasin@a-basin.net](mailto:abasin@a-basin.net)

### WEBSITE

[www.arapahoebasin.com](http://www.arapahoebasin.com)

### MAIN PHONE

1-888-ARAPAHOE  
(1-888-272-7246)

1-970-468-0718

### POSTAL ADDRESS

Arapahoe Basin Ski Area  
P.O. Box 5808  
Dillon, Colorado 80435

### PHYSICAL ADDRESS

Arapahoe Basin Ski Area  
28194 US Hwy 6  
Dillon, CO 80435

