Climate FUND

PARK CITY COMMUNITY FOUNDATION

ZERO FOOD WASTE 2030

STRATEGIC PLAN



Park City Community Foundation's Climate Fund | January 2024



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ZERO FOOD WASTE 2030 GOAL

The Climate Fund is a program of Park City Community Foundation, focused on inspiring local action around high-impact climate solutions that have the potential to scale to similar communities. Park City Community Foundation is a founding partner and the fiscal sponsor of MT2030, a coalition inspiring climate action across 40 mountain towns. Since its inception in 2019, Climate Fund has awarded $527,404.00 to local organizations mitigating climate change.

In April 2023, Park City Community Foundation's Climate Fund announced a Zero Food Waste 2030 goal to fully divert food waste from Summit County's landfill by 2030. This strategic decision, shaped through thorough discussions with staff, board, and community collaborators, targets one of the most pressing climate-related issues in our community. The Zero Food Waste 2030 goal is not only necessary to reach our long-stated City and County Net Zero goals but is financially the most prudent path for our county taxpayers who fund our rapidly-filling landfill.

Park City is closely tied to our natural environment, so we experience the negative impacts of global warming in a visceral way when we have winter seasons without much snow – the essential ingredient for the economic livelihood of our community. Since the 1970s, Summit County has lost six weeks of winter temperatures. These same changes in precipitation patterns threaten our rural agricultural economy in Summit County while also increasing the risk of damage to life, health, and property due to wildfires.

If food waste were a nation, it would be the third largest greenhouse emitter in the world.

Each year, one-third of the total amount of food produced globally is wasted. The global carbon footprint of wasted food is equal to roughly 7 percent of all global greenhouse gas emissions. In fact, if food waste were a nation, it would be the third largest greenhouse gas emitter in the world after the United States and China. The EPA estimates more food reaches landfills than any other material in the municipal solid waste (MSW) stream. Here, in our community with heavy tourism, the data shows that our food waste is an even bigger contributor to our landfill.

The Climate Fund can serve an important role as a convener bringing together key government, community and business leaders to focus attention and catalyze near-term action to reduce and divert food waste as well as provide seed investments and support to put in place key elements of a comprehensive food waste reduction and diversion strategy.

Th Climate Fund retained former Utah State Senator, Salt Lake County Mayor, and Congressman Ben McAdams, and Troy McKinley, founder and CEO of Vericarbon, to help create this strategic plan to guide our next steps.

Through the Zero Food Waste 2030 goal, the Climate Fund and its community partners will have a targeted impact, reducing local methane emissions, and saving the community millions of dollars down the line in local waste removal. Not to mention, it's a goal aligned with Park City's commitment to reach carbon neutrality by 2030. Eliminating food waste is a powerful and necessary step to help Park City reach it's commitment to be net zero by 2030.

EXECUTIVE SUMMARY & PRIORITY ACTIONS

Food waste is a major contributor to global climate change. In a landfill, food waste decomposes anaerobically to release methane, a greenhouse gas that is 84 times more potent than carbon dioxide. Eliminating food waste is one of the few opportunities to have near-term impact to limit the extent of climate change until we are able to implement other solutions that are more complex and will take longer to create a beneficial impact.

The Park City community is willing to engage in difficult discussions, take bold actions, and take responsibility for individual and collective behaviors that contribute to a warming planet. This leadership has provided a roadmap for other communities to follow. Taking action to eliminate food waste is an important step in Park City's ongoing climate leadership.

This Zero Food Waste Strategic Plan outlines a roadmap for the Park City and Summit County community to achieve its goal of eliminating food waste from the landfill by 2030. It is an achievable outcome that only relies on local efforts and is not dependent on more complicated state or federal actions. Furthermore, this initiative, in addition to contributing to global climate change mitigation, will yield short-term local benefits including extending the life of the landfill and associated economic benefits and improve local air quality by reducing harmful methane emissions.

The plan identifies three main objectives:



REDUCING & DIVERTING FOOD WASTE



DEVELOPING WASTE PROCESSING STRATEGIES



MEASURING PROGRESS

The following priorities for immediate action will begin to reduce and divert food waste, and build a foundation to achieve full scale reduction or diversion of food waste by 2030.

1. Support the adoption of local waste reduction ordinances. Park City is currently contemplating the adoption of ordinances advancing the city's sustainability practices before the end of the year. Several candidates and elected officials have expressed doubts about the community's commitment to advancing sustainability initiatives. We recommend the Park City Community Foundation and other community leaders engage with City and County staff and elected officials to encourage adoption of the ordinances before the end of 2024.

2. Zero Food Waste Compact. We recommend the Park City Community Foundation create a working group to draft a Zero Food Waste Compact and develop a campaign to attract support from community institutions, municipalities, businesses and individuals to sign the compact. It is envisioned that this campaign help to raise community awareness and commitment to the general principles of the Zero Food Waste 2030 goal.

3. Residential curbside waste collection expansion to support the proposed partnership between Momentum Recycling and Spoil to Soil. Spoil to Soil currently provides curbside collection of food waste for roughly 600 homes and hauls food waste to an offsite location for composting. Momentum is proposing to assume curbside collection services, consistent with Momentum's core services as a recycling hauler, in order for Spoil to Soil to focus on its composting core competency. This partnership's likelihood of success would

benefit significantly from a guarantee of a minimum volume of services of 1,000 new homes for a period of three years. Such a guarantee would solidify the parties' ability to make key investments in equipment and facilities to grow their respective operations to meet the additional commercial scale, improve the competency and sophistication of their operations and prepare the market for future growth capacity. Guaranteeing the participation of an additional 1,000 households, reflecting an increase in the current participation rate from 600 to 1,600 households at an estimated cost of around $27 per month, would require a commitment of approximately $12,000 per year for three years. The actual amount of this guarantee would be reduced as additional households subscribe to the curbside collection program.

4. Investment in a micro digester. Further research into the feasibility of a micro digester is warranted. One of the challenges in the early stages of the Zero Food Waste 2030 goal is maintaining a balance between the volume of food waste diverted and sustainable food waste processing strategies. Large entities such as Deer Valley and Park City Mountain Resort send their diverted food waste to the Wasatch Resource Recovery digester in North Salt Lake. This facility can accept a significantly larger volume of food waste, although there is a related cost and environmental impact of hauling food waste to North Salt Lake. Spoil to Soil is a local composter capable of processing the current small-scale volume of residential food waste. This service is capable of incremental increases in scale.

Small-scale anaerobic digesters may offer a local solution to process additional food waste from the residential collection pilot or as part of a ski area or local business district's food waste diversion efforts. Micro digesters are increasingly affordable and reliable. Sized appropriately, a micro digester can have a steady and reliable waste stream. Because composting processes are more easily adapted to a fluctuating volume of waste, any waste in excess of the capacity of a micro digester can be composted. A micro digester could even be located on site at the Spoil to Soil composting facility or another location that generates or is a collection point for food waste to streamline hauling and waste processing.

The anticipated cost of a micro digester ranges from $500,000 to $1 million, depending on the capacity and other factors. This capital investment could benefit from federal grants or low-interest financing available through the Inflation Reduction Act.

5. Main Street food waste diversion pilot. Exploring whether Main Street restaurants and businesses support a micro digester located in close proximity is warranted. Collectively, restaurants are one of the largest sources of food waste in the greater Park City area. The density of restaurants on Park City Main Street makes this area a concentrated source of food waste and consequently a focus area where it is possible to achieve sizable early success. A food waste diversion campaign with support from Main Street businesses and a micro digester located in proximity to Park City Main Street restaurants that makes food waste diversion simple and easy would have an empirically measurable impact on reducing methane emissions. A micro digester located near Park City Main Street would cost from $500,000 to $1 million, depending on the capacity and other factors. This capital investment could benefit from federal grants or low-interest financing available through the Inflation Reduction Act.

6. Measure progress and track success. To measure progress, the plan recommends developing a dashboard to track the amount of food waste generated and diverted. This will help to measure successes, and identify trends and areas for additional efforts.

The plan outlines a number of additional strategies, focusing primarily on recommendations and strategies for action in the first phase of implementation in order to establish a baseline of knowledge and understanding about what is required to multiply and scale efforts to successfully achieve zero food waste by 2030. These additional first-phase strategies include:

- Update the Green Business Program to include additional food waste reduction and diversion strategies
- Update the Sustainable Tourism toolkit to include recommendations for guest education language that supports food waste reduction and diversion strategies

- Create strategies to reduce and divert food waste from events and catering
- Encourage schools, hospitals, large businesses and other institutions to adopt food waste reduction and diversion strategies

As efforts to divert food waste from the landfill increase in the volume of food waste taken to other climate-friendly food waste processing services, it is important to support efforts to increase the scale and variety of sustainable waste processing options.

Alongside food waste reduction and diversion strategies, it is also important to support community education and engagement efforts to build public support. In particular, an approach that has been used in other contexts in Utah is to create a "compact" that states the reasons for taking action to reduce food waste and divert waste from the landfill and affirms a commitment to principles of action, and launch a public relations campaign encouraging community institutions, municipalities, businesses, and individuals to sign a commitment to the principles of the compact. This effort can raise awareness and educate the general public and key stakeholders about the need for community action and lay the foundation for future action and commitments.

This strategic plan seeks to support the Climate Fund's ambitious goal to achieve Zero Food Waste by 2030. Achieving this goal will require the cooperation of major stakeholders in the Summit County community and commitment from community institutions, municipalities, businesses, and individuals to do their part. By working together, the Summit County community can achieve its goal of eliminating food waste from the landfill and creating a more sustainable future.

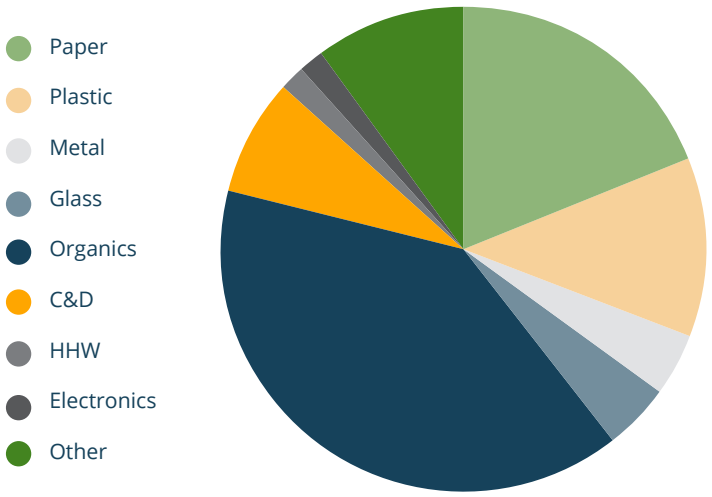
FOCUS ON FOOD WASTE

Food waste is a major contributor to climate change. When food waste is taken to the landfill, it decomposes anaerobically, releasing methane, a greenhouse gas that is 84 times more potent than carbon dioxide. Taking action to eliminate food waste is one of the few opportunities to immediately mitigate climate change and buy time to implement other solutions that are more complex and will take longer to create a beneficial impact. The Park City community has shown a willingness to engage in difficult discussions, take responsibility for individual and collective behaviors that contribute to a warming planet and exhibit leadership for other communities to follow by taking action to change harmful practices. An important step in Park City's climate leadership is to adopt strategies and take action to eliminate food waste.

Each year, 1.6 billion tons of food, or one-third of the total amount of food produced globally, is wasted in the process of production, distribution and consumption.[1] The global carbon footprint of this wasted food was about 3.3 billion tons of carbon dioxide equivalents, equal to roughly 7 percent of all global greenhouse gas emissions.[2] In fact, if food waste were a nation, it would be the third largest greenhouse gas emitter in the world after the United States and China. The EPA estimates more food reaches landfills than any other material in the municipal solid waste (MSW) stream.[3]

When food is wasted, it also wastes the resources – such as the land, water, energy, and labor – that go into growing, storing, processing, distributing, and preparing that food. Each year, food loss and waste from farm to kitchen embodies an area of agricultural land the size of California and New York combined, enough energy to power 50 million U.S. homes for a year, and emissions *(excluding landfill emissions)* equal to the annual CO2 emissions of 42 coal-fired power plants.[4]

Refuse Composition in the County Landfill



This chart shows the aggregate disposed waste composition by major material group. As shown, organics comprise almost 40 percent of the refuse (excluding C&D debris) disposed at the County landfill.

When food goes to the landfill and rots, it produces methane—the second most common greenhouse gas. While methane's lifetime in the atmosphere is much shorter than carbon dioxide, pound for pound, the comparative impact of methane is 84 times more heat retaining than carbon dioxide over a 20 year period.[5] Landfills are the third-largest source of human-related methane emissions in the United States, accounting for approximately 14.3 percent of these emissions in 2021.[6] The methane emissions from landfills in 2021 were approximately equivalent to the greenhouse gas (GHG) emissions from nearly 23.1 million gasoline-powered passenger vehicles driven for one year or the CO2 emissions from nearly 13.1 million homes' energy use for one year.[7]

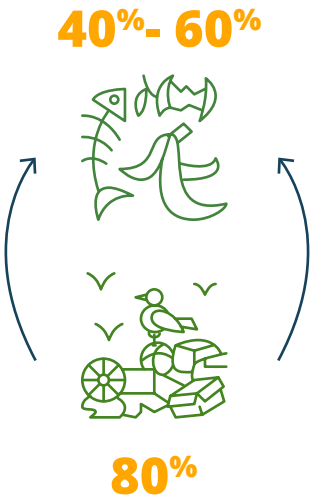
[1]Food and Agriculture Organization of the United Nations, Global Food Losses and Food Waste, 2011
[2]Ibid.
[3]U.S. EPA, 2019 Wasted Food Report (PDF), 2023
[4]U.S. EPA, From Farm to Kitchen: The Environmental Impacts of U.S. Food Waste (PDF), 2021
[5]Godin, S. (2022). The carbon almanac: it's not too late. Portfolio Penguin
[6]U.S. EPA, Basic Information about Landfill Gas, https://www.epa.gov/lmop/basic-information-about-landfill-gas
[7]Ibid.

The scope of this initiative will focus primarily on the reduction of consumer food waste, ensuring maximum climate impact by working to both reduce the creation of consumer food waste, which compounds the food waste inherent in the upstream process of food production and distribution, and also diverting food waste from the landfill and the associated methane emissions.

Food waste impacts the Park City and Summit County community's economy, health, and environment in ways that many people may find surprising. Developing actionable strategies for addressing this pervasive problem will require individuals, households, governments, businesses, and institutions all working together.

Presently, a whopping eighty percent of the solid waste that reaches the local landfill could be avoided, with forty to sixty percent of that being food waste (depending on the season). References in this document to diverting food waste envision strategies to isolate food waste that would otherwise enter the waste stream for disposal at the landfill and divert such waste to facilities that can process food waste in an environmentally sustainable manner.

Projections for the Three Mile Canyon landfill, Summit County's only municipal solid waste landfill, estimate the landfill reaching full capacity within the next two to three decades unless action is taken to change the trajectory of landfill waste disposal. No feasible alternative landfill options for Summit County residents have been identified. Summit County and Park City leaders understand the importance of taking efforts to reduce and divert waste from the landfill in order to extend the useful life of the landfill, not only because of the associated climate impacts of landfill waste, but also as a exigent priority for their ability to provide affordable future municipal services into the future.



A 2019 waste and recycling composition study commissioned by Summit County indicates that roughly **eighty percent** of the solid waste that reaches the local landfill could be avoided, with **forty to sixty percent** of that being food waste.

A 2021 Waste Characterization Study commissioned by Park City to examine both its residential waste and waste from the Downtown Park City Business Improvement District (BID) showed that potentially divertible compostable organics, which includes not only food waste but other compostable waste such as yard clippings, comprised 71% of all waste from restaurants and bars and 45% of residential waste.[8] A similar report examining the residential and commercial waste stream in Summit County showed that food waste comprised 32.3% of residential waste and 34.1% of commercial waste at the landfill.[9] That's thousands of tons of seafood, beef, poultry, dairy, vegetables, and grains thrown away in hotels, grocery stores, restaurants, schools, or home kitchens.

Strategies that divert food waste from the landfill will also reduce contamination risks of Summit County's water supply. When food waste decomposes in a landfill, it produces leachate, which is a liquid that contains harmful chemicals and bacteria. This leachate can contaminate groundwater and surface water, and can also pose a risk to human health. Food

[8] Park City, Waste Characterization Study Final Report, MSW Consultants, 2021
[9] Summit County, Waste & Recycling Composition Study Final Report, MSW Consultants, 2019

waste increases potential leachate risks specifically because it is a biodegradable material. In addition, food waste that is not properly disposed of can attract pests and rodents, which can also contaminate water and spread disease.

The economic costs of food waste to residents and businesses are significant. In the United States, food waste costs $218 billion annually. This includes the cost of lost food, the cost of disposing of food waste, and the cost of environmental damage caused by food waste. In addition to the cost to households and businesses of food that is purchased and never consumed, the direct cost to taxpayers of opening a new cell at the Three Mile Canyon landfill to add roughly seven years of landfill capacity based on current circumstances and trends is significant. These are taxpayer funds that could otherwise be allocated to other community priorities or returned to the taxpayer. In the foreseeable future, when the landfill reaches full capacity without space to open additional cells, alternatives will be significantly more expensive. This will most likely require an ongoing increase in municipal solid waste disposal fees for residents and businesses.

In light of the significant contribution food waste makes to global climate change, unique factors correlating to higher rates of food waste for mountain towns like Park City compared to places with a similar population, the risks of environmental contamination and adverse health outcomes from food waste to Summit County and Park City residents, and the economic costs of food waste to local residents and businesses, actions to reduce food waste generally and strategies to divert all food waste from the landfill are more than justified.

This strategic plan seeks to recommend strategies and actions that can be taken by public, private, and philanthropic community partners to eliminate food waste at the Summit County landfill by 2030.

PROCESS & METHODOLOGY

In July 2023, the Climate Fund retained McAdams and McKinley to create a strategic plan to support the Zero Food Waste 2030 goal.

The process for assessing the current status and developing the strategic plan began by identifying nearly two dozen key stakeholders, including government experts with experience and knowledge about food waste reduction and diversion approaches, professionals in waste diversion and recycling sectors, and representatives of private business and trade associations engaged in food waste reduction and diversion efforts about (i) the community's readiness for and the current state of food waste reduction and diversion strategies and (ii) an assessment of current waste management processes and food waste diversion and recycling strategies.

Based on those engagements and the input gathered, this document seeks to identify strategic actions, opportunities, and solutions for the greater Park City and Summit County community to pursue to achieve Zero Food Waste by 2030. Success will require not only collaboration among city and county government, but also support from nonprofits, businesses, and residents. Park City Community Foundation's Climate Fund can foster this collaboration, raise the visibility and public consciousness of this priority, highlight individuals and businesses, leading successful efforts, offer to spur the creation and growth of critical services, and provide catalytic support and investment to advance initiatives, services and policies to continue progress toward achieving the final objective.



This strategic action plan outlines, a framework for evaluating progress and achievements to maintain steady progress, critical actions that are important to put in place in order to build future scale, and other innovations to achieve the zero waste target by 2030.

CURRENT STATE ASSESSMENT

McAdams and McKinley reviewed available legal, policy, and visioning documents regarding Park City's and Summit County's municipal solid waste management strategies, waste reduction, and recycling efforts and interviewed over 20 key stakeholders and representatives from local government, private sector, non-governmental organizations, academia, and Park City residents.

McAdams and McKinley interviewed the stakeholders in August and September 2023 to better understand the opportunities and challenges relating to the Zero Food Waste 2030 goal, identify existing waste reduction and diversion efforts, and prepare recommendations for strategic actions to achieve success.

Concurrent with the stakeholder interviews, McAdams and McKinley researched current waste management strategies, waste reduction and diversion strategies, and successful initiatives underway in other jurisdictions that could apply to the Park City community's efforts.

WASTE MANAGEMENT ASSESSMENT

Three Mile Canyon Landfill

Summit County operates the Three Mile Canyon Landfill adjacent to the Rockport Reservoir. This is the sole municipal solid waste landfill servicing all of Summit County. In 2013, Summit County obtained an expansion permit for Three Mile Landfill from the Utah State Department of Environmental Quality Solid and Hazardous Waste Collection (DEQ).

The new permit allows the landfill to expand by constructing five new, lined cells to the north within the existing permitted landfill property. The first such cell became operational in 2019 and has a life expectancy of roughly 7 years at current disposal rates. The five cells, once built, will extend the life expectancy of the landfill to around the year 2053 at current disposal rates.

Given the results of the 2019 waste and recycling composition study that found that eighty percent of the solid waste that reaches the local landfill could be avoided, with forty to sixty percent of that being food waste, we know that diverting roughly 50% of waste going to landfill could significantly extend the remaining life expectancy of the Three Mile Canyon Landfill.

Summit County Residential Waste Services

Summit County's solid waste program is responsible for the management, collection, transportation, and funding of all waste generated from residential dwellings *(including non-commercial multifamily units)* and the residential curbside recycling program.[10]

Summit County has contracted with Republic Services to collect residential waste. Republic Services also has separate contracts with individual businesses in the County for waste and recycling services. Additionally, the County has a contract with ACE Recycling and Disposal for residential dumpsters in remote areas of the east side of the County not serviced by the Republic Services contract, such as Christmas Meadows and the Bear River Lodge area of Mirror Lake Highway. The waste collected in these dumpsters is hauled to Uinta County, Wyoming.[11]

Republic Services transports residential waste to the Three Mile Landfill. On an annual basis, approximately 50,000 tons of refuse are collected in Summit County; about 35% of this total is collected from approximately 18,000 residential units[12] across the county through the curbside waste collection program, with the remainder from the commercial sector.[13]

[10] Summit County Integrated Solid Waste Management, Master Plan Update, April 2018
[11] Ibid.
[12] Ibid.
[13] Ibid.

Summit County Residential Recycling Services

Summit County has also contracted with Republic Services to haul for the curbside residential recycling program. The residential recycling program recovers paper, cardboard, plastic, aluminum, and metal. It does not recover food waste, yard waste, or glass. Typically, Republic Services hauls residential recyclable materials to Rocky Mountain Recycling in Salt Lake City.

The residential curbside recycling program diverts about 20% of total residential waste *(excluding yard waste and glass).*[14] Residents also have the option to contract with small, privately owned and operated nonprofit recycling companies, such as Curb-it and Good Earth, for curbside glass and compost services[15] or access drop-off centers for glass, green waste, household hazardous waste, cardboard waste, and metal waste drop-off containers on a self-hauled basis.

Recycle Utah

Summit County has a contract with Recycle Utah, a local nonprofit organization, for drop-off recycling services, public education, two annual household hazardous waste collection events, glass collection, electronic waste diversion, and other recycling efforts. This contract is approximately $85,000 and is renewed annually.[16]

All recyclables dropped off at the Recycle Utah facility are picked up directly by recyclers who contract with Recycle Utah. For example, all glass is picked up by Momentum, located in Salt Lake City, which operates the only glass recycling facility in the state. Recycle Utah also has contracts with Interwest Paper, which recycles all the paper they collect, and Metech for electronics recycling, to name a few.[17]

Wasatch Resource Recovery

Wasatch Resource Recovery (WRR), located in North Salt Lake, is Utah's first and only anaerobic digester dedicated to food waste diversion. The facility processes organic waste, which includes food scraps, liquid waste, and manufacturing food waste. The process will turn the organic matter into sustainable resources – biogas and bio-based fertilizer.

WRR accepts diverted packaged and/or unpackaged food waste, including prepared food, fruit, vegetables, meat, and dairy, as well as fats, oils & grease and other liquids. Wasatch Resource Recovery is not a waste hauler and accepts waste from diverse haulers servicing several greater Park City businesses to divert food waste from the landfill to their digester.

Spoil to Soil

Spoil to Soil is a Park City area business that provides voluntary curbside collection services to approximately 600 homes for residential food waste, costing households approximately $30 per month. Spoil to Soil composts food scraps at a local Summit County farm.

Spoil to Soil is in discussion with Momentum Recycling, where Momentum will assume curbside food waste collection services for Spoil to Soil's voluntary food waste collection program. Spoil to Soil will focus on its core food waste composting services.

Momentum Recycling

Momentum Recycling is a full-service zero-waste company offering comprehensive recycling collection services to organizations and residences along the Wasatch Front. In Summit County, Momentum provides curbside collection of glass and food waste. Momentum transports food waste to the Wasatch Resource Recovery facility in North

[14] Ibid.
[15] Ibid.
[16] Ibid.
[17] Ibid.

Salt Lake, where it is processed into biogas in an anaerobic digester where gas is captured and purified before it is converted into renewable natural gas and fed into the municipal gas pipeline. The remaining byproduct is used as fertilizer used by local farms.[18]

Momentum also recently announced a partnership with Spoil to Soil where Momentum will assume curbside food waste collection services for Spoil to Soil's voluntary food waste collection program. Participation in the Momentum/ Spoil to Soil curbside collection program costs households approximately $30 per month.

[18] https://utah.momentumrecycling.com/saltlakecityfoodwaste/

OBJECTIVES

Efforts to build awareness and community support for the Zero Food Waste 2030 goal is foundational to success. Many residents support addressing food waste and are ready to support coordinated efforts. Alongside substantive actions to address food waste, the Climate Fund should support organizing coalition partners and forging commitment to the initiative and building public awareness and support. One tool to build community awareness and support is the Zero Food Waste Compact, discussed below.

To achieve substantive reductions of food waste, we have identified three main objectives for the strategic plan. These objectives represent broad categories that will encompass numerous individual strategies within each focus area. This process will necessarily be a dynamic process that will evolve over time as the community progresses toward the goal of zero food waste.



1. Reducing and diverting food waste. Implementation of multiple actions to reduce overall food waste or divert food waste from the landfill waste stream. Residents and businesses need convenient, affordable, and scalable options to divert and recycle food waste. Some options already exist within the community and would benefit from greater visibility and promotion. Existing and new opportunities would benefit from additional subscribers and, in some cases, additional government and private support in order to remain viable and in order to grow in scale to achieve zero food waste.



2. Developing waste processing strategies. Education and diversion strategies are incomplete without appropriate, climate-friendly food waste processing strategies. Several successful strategies already exist in the community but will need additional tools to scale to the size of a countywide zero food waste. Additional opportunities may become increasingly economically viable and can further reduce the climate impact of food waste processing as the initiative increases in volume and scale.



3. Measuring progress. Development of robust data systems and monitoring mechanisms to accurately track food waste. This involves a comprehensive approach to understanding the origins and key drivers of food waste generation. By implementing these improved systems, we aim to effectively measure the impact of our reduction and diversion strategies, assessing how well they meet our objectives.

As we progress, these systems will enable us to quantitatively evaluate the success of our efforts by comparing the volume of food waste we successfully divert against the amount that still ends up in landfills. This data-driven approach is crucial for adapting our strategies over time and ensuring that we are making meaningful progress towards our goal of minimizing food waste.

FIRST-PHASE STRATEGIES

REDUCTION AND DIVERSION, PUBLIC POLICY STRATEGIES

Support local government sustainability efforts through Park City's updated sustainability ordinances and Summit County's efforts to reduce waste.

Park City municipal government is currently considering an update to its sustainability ordinances, which include policies to reduce food waste. We recommend supporters of the Zero Food Waste 2030 goal make it a top priority to support the passage of these ordinances before the end of 2024 by raising the visibility and community awareness of these ordinances and advocating for elected official support.

These ordinances plant the seeds of systemic change, but it will take time for the impact of these ordinances to be fully realized. Taking action on these ordinances should be a top community priority.

Summit County landfill expansion

Summit County officials are expected to take action in 2025 to open a new cell at the Three Mile Canyon landfill and appropriate funding for the expansion. Creating this additional cell is inevitable at this point. Nevertheless, this presents an opportunity to work alongside county officials to highlight the financial costs and environmental impacts of disposing of food waste at the landfill. This might present an opportunity for the county to more closely evaluate the financial costs of disposing of waste at the landfill compared to other sustainable practices and explore ways to create a better balance of landfill costs that encourage sustainable practices rather.



The remaining life of the landfill is finite and will reach full capacity in the foreseeable future. Educating the public about the steep consequences and financial costs, in the context of taking action to fund expansion of the landfill, presents an opportunity to also plant seeds for future regulatory, policy, and voluntary actions with the support of Summit County.

REDUCTION AND DIVERSION, RESIDENTIAL STRATEGIES

Residential curbside food waste collection

Achieving a Zero Food Waste 2030 goal will ultimately require solutions that are convenient and affordable. Full-scale services can't happen overnight but will require incremental steps and fine-tuning before being implemented community-wide. This is certainly the case with curbside food waste collection.

Implementing a curbside food waste collection service will require a large capital investment in equipment and staffing. Diverting food waste from the landfill to a composting or anaerobic digester facility will similarly require capital investment by a partner or partners who are capable of processing waste at the scale collected. There are a lot of unknown variables, such as the speed and degree to which residents and businesses will participate, how much food waste can be captured at a predictable rate, the quality of the waste stream and degree of contamination, and how effectively partners can scale their ability to accept and process food waste in an environmentally sustainable way.

The unknowns necessitate an incremental process where systems are fine-tuned, community participants are educated and bought in, and investments are secured before the service is able to scale.

In order to attract a service provider capable of servicing commercial scale volume of food waste, we recommend a catalytic investment and/or public or private capital that guarantees the subscriptions of 1,000 households who are participating in an optional curbside food waste collection program for a period of three years. The guarantee of this financial backstop could entice a private hauler to invest in the necessary equipment and staff to begin a residential program. Ideally, this third-party investment would serve primarily as a guarantee, and the actual expenditures be minimized as 1,000 or more households sign up to participate in the program.

This guarantee has the potential to be a pivotal factor in initiating a residential curbside collection program, which could eventually expand and become self-sustaining without the need for further private investment. Kick starting this pilot program is a critical initial step towards developing a service that can adapt and grow to meet future needs and expectations. In light of this, the Climate Fund is encouraged to consider making a strategic investment or offering a matching grant to ensure a base level of participation for the first three years. This approach would not only lay a solid foundation for the program but also demonstrate a strong commitment to long-term sustainability of the program.

Eventually, implementation of a mandatory opt-in or opt-out curbside food waste collection program may be needed to achieve complete food waste diversion, and additional public financial support may be necessary, as is the case with traditional municipal solid waste collection. We believe a pilot residential curbside collection program is an important early step.

REDUCTION AND DIVERSION, COMMERCIAL STRATEGIES

Green Business Program expansion

The Green Business program started in 2016 and has grown into a collaboration between Recycle Utah, the Park City and Summit County sustainability departments, and the Park City Chamber of Commerce and Visitor's Bureau.

Park City and Summit County businesses, and patrons of these businesses, are concerned about climate change and motivated to improve sustainable practices and reduce waste. Already, many businesses are taking meaningful steps towards achieving net-zero carbon and zero waste. Sometimes, knowing what practices can improve a business's sustainability can be confusing and adopting green practices can be complicated and expensive.

The Green Business Program seeks to provide expert guidance, tools, and incentives for local organizations to maximize value while building sustainable, regenerative business practices. The program also aims to bring greater recognition and incentives to businesses that become sustainability leaders. The Green Business Program has three levels of commitment:



Businesses that want to receive a Green Business certification are provided a checklist of various sustainable practices they can choose to adopt and an array of options to achieve their desired level of certification.

We recommend updating the Green Business Program checklist to include more specific guidance regarding food waste reduction and diversion, including training for food handler employees about the importance of eliminating food waste and workplace strategies to reduce and divert food waste. Furthermore, efforts to increase the visibility and public awareness of the Green Business Program are warranted. The more businesses that participate in

the Green Business Program, the more awareness the program will have within the business community and from patrons. Stakeholders mentioned a goal of securing the participation of one hundred businesses in the Green Business Program. We believe this is an achievable goal for the first phase of the Zero Food Waste 2030 goal.

We recommend the Climate Fund engage, to the extent necessary, to support updates to the Green Business Program, participate in raising business and community awareness of the program to award participating businesses with increased support and patronage, and look for opportunities to make supportive grants to overcome obstacles and improve successful business uptake and participation.



Sustainable Tourism Toolkit

The Park City Chamber & Visitor's Bureau has created a sustainability toolkit for lodging partners to help communicate to visitors how to visit responsibly. The lodging sustainable tourism toolkit provides helpful language for lodging providers to educate and inform guests about local sustainability practices and how they can participate in supporting the community's sustainability values. We recommend updating this toolkit to include educational messaging lodging partners can provide to guests on reducing and diverting food waste.

Event and catering food waste reduction

Food waste is a major problem at large events and catering. Studies have shown that between 15% and 20% of the food produced for these events is wasted. There are a number of factors that contribute to food waste at large events and catering, including:

- Overestimating the number of guests. Caterers often err on the side of caution and over-order food to ensure that there is enough for everyone. This leads to a significant amount of food waste.
- Serving large portions. Caterers typically serve large portions, which can lead to guests leaving food on their plates.

There are a number of things that hosts and caterers can do to reduce food waste from large events and catering. Efforts to educate caterers and hosts about event food waste and support those who take steps to reduce food waste from events is an important early component of the Zero Food Waste 2030 strategy to put in place in order to refine and innovate approaches to eliminating food waste from events.

In connection with issuing an event permit for large community events, government can require event hosts to provide a food waste mitigation plan. An important element of event food waste mitigation efforts in other jurisdictions is third-party food recovery services that take unserved food from events to provide meals to persons experiencing food insecurity. Food scraps that cannot be donated should be diverted from the landfill to composting or anaerobic digestor processing services.

Reducing food waste from schools

Food waste is a major problem in schools, both in the United States and around the world. According to the National Resource Defense Council, American schools waste an estimated 1 million tons of food yearly. This is enough food to feed 1.5 million children for a year.

The Park City School District recently hired a sustainability director who is leading efforts to reduce waste from the schools. Numerous school districts around the country are implementing efforts to improve environmental sustainability. The Park City School District is taking seriously its stewardship responsibilities. There are a number of things the community can do to support the Park City School District's efforts to reduce food waste, including:

- Include school district officials in efforts to develop a public education campaign and develop materials for school-aged children to educate about the harms of food waste, minimizing the carbon footprint of food and food waste by encouraging plant rich diets, and simple steps to participate in reducing food waste and diverting food waste from the landfill.
- Support school efforts to separate and divert food waste from the landfill to composting or anaerobic digesting services. The Park City School District does not currently have a composting program. We recommend the Park City Community Foundation explore ways to support the launch of a school district composting program or create the processes and partnerships to send food waste to a third-party composting program.
- Include school district officials in efforts to create a food rescue program to donate unserved meals and leftover food to local food banks and service providers so that it can be used to feed people in need.

WASTE PROCESSING

Scaling solution

It is important to ensure that waste processing solutions, including composting and anaerobic digestion services, are capable of servicing increasing volume of waste streams. The perceived or real lack of a local facility or facilities capable of processing waste at a commercial scale is a barrier to securing full support to waste diversion efforts.

The ability of local climate-friendly waste solutions to meet increasing demand may require access to additional equipment, land, and professional staffing. Expansion of services may be funded through market demand for compost, in the case of composting services, or methane, in the case of anaerobic digestions. Nevertheless, such services may require community and public support to alleviate any obstacles or bottlenecks to growth.

Micro digester

Small-scale anaerobic digesters may offer an interim solution to ensure there is sufficient local capacity to process increased waste streams and avoid flooding the market with compost. A micro digester located at key locations where a significant amount of food waste is generated, such as a business district or ski area, or at key food waste collection points, such as at a composting facility, can become a key component of a community-wide food waste reduction initiative. Micro digesters are increasingly affordable and reliable. Sized appropriately, a micro digester can have a steady and reliable waste stream. Because composting processes are more easily adapted to a fluctuating volume of waste, any waste in excess of the capacity of a micro digester can be composted. A micro digester could even be sited at the same location as composting services to streamline hauling and waste processing.

TRACKING AND MEASURING PROGRESS

Zero Food Waste Dashboard

The saying "If you can't measure it, you can't improve it" applies as much to the business of eliminating food waste as anything. An early step to eliminating food waste is to understand how much food waste is currently taken to

the landfill and to create the tools and data systems to measure the community's progress toward eliminating food waste at the landfill.

Developing a dashboard that estimates the amount of food waste dumped at the landfill is an easy first step. The Climate Fund and other stakeholders supporting the Zero Food Waste 2030 goal can announce the creation of the dashboard together with the launch of the initiative. The coalition can continue to refine and improve the quality of the data tracked and reported by the dashboard as diversion efforts move forward.

A draft of the proposed model for the dashboard is attached as Addendum A: Strategies–Food Waste Diversion Dashboard and Indicators.

Celebrate Successes

Numerous Park City and Summit County entities have already implemented strategies to eliminate food waste and are achieving an impressive level of success. In particular, Deer Valley and Park City Mountain Resort have food waste reduction and diversion programs that are achieving nearly full-scale success.

Not only do organizations and businesses that have prioritized time and resources to eliminate food waste deserve recognition and community appreciation for their efforts, but this is also an opportunity to increase community support for the Zero Food Waste 2030 goal. Social psychologists and marketers refer to the "bandwagon" effect, where individuals are shown to be more likely to adopt certain behaviors or abandon bad behaviors because they believe other people are already doing it. A Zero Food Waste campaign that is focused on success and positive outcomes is more likely to receive public support and cooperation.

Both Deer Valley and Park City Mountain Resort have learned through practice and continued innovation effective waste and food waste reduction strategies that can provide a valuable model for other business sectors and residents to achieve similar success. We recommend observing the ongoing strategies used by these and other business leaders taking responsible measures to eliminate greenhouse gas emissions to replicate and scale throughout the community.

GENERAL APPROACHES

Strategic goals for the first phase of the Zero Food Waste 2030 goal should focus on: Strategic goals for the first phase of the Zero Food Waste initiative should focus on (i) bringing together coalition partners and forging commitment to the goal, (ii) building public awareness and support, and (iii) creating and launching the strategies and tools for each of the objectives identified above that will need to be fine-tuned and expanded to achieve eventual full-scale success.

BRINGING TOGETHER COALITION PARTNERS AND BUILDING PUBLIC SUPPORT

We recommend the Climate Fund lead a Zero Food Waste Compact that public and private institutions, businesses, and individuals can adopt and sign, expressing their individual commitment to eliminating food waste at the landfill. Similar endeavors have been used successfully in Utah to forge coalitions and build support for ambitious multi-stakeholder initiatives, including the Utah Compact, the Mountain Accord, and the Clean Air and Climate Compact. The text of the Utah Compact and a simple website at TheUtahCompact.com provide an example of a simple, values-based approach to coalescing the community around unifying principles for sensible immigration reform.

A similar campaign to encourage organizations and individuals to sign a nonbinding Zero Food Waste Compact gives aligned supporters actionable steps they can take to build support and raise awareness for the need to eliminate food waste at the landfill. We believe such an approach could be a strong foundation to launch the Zero Food Waste 2030 goal.

CLIMATE POSITIVE GAMES

The timing of the Zero Food Waste 2030 goal can also benefit from and support Utah's quest to bring the Olympic Games back to Utah. The International Olympic Committee (IOC) has adopted a Climate Positive Games initiative that aims to reduce and offset the greenhouse gas emissions associated with the Olympic Games and Paralympic Games, and to leave a positive climate legacy in the host cities and countries.

The IOC has committed to reducing the direct and indirect emissions of the Olympic Games and Paralympic Games by 50% by 2030 and to becoming climate positive by 2040. The IOC is working to reduce the emissions of the Olympic Games through a variety of measures, such as using renewable energy, improving energy efficiency, and reducing waste. The IOC is also working to leave a positive climate legacy in the host cities and countries through investments in sustainable infrastructure and programs.

A key element of the Climate Positive Games initiative is to reduce the waste generated by the Olympic Games and Paralympic Games. For example, the Paris 2024 Games aim to reduce waste by 50%. The Park City Community Foundation's Zero Food Waste 2030 goal directly aligns with the Climate Positive Games initiative and gives residents an individual opportunity to act locally to support Utah's Olympic bid effort and the Climate Positive Games initiative. This is another opportunity to raise awareness and to build community support for the Zero Food Waste 2030 goal.

ZERO FOOD WASTE EDUCATION CAMPAIGN

To support the Zero Food Waste 2030 goal, a comprehensive information campaign to educate residents, tourists, and businesses about the environmental harm caused by food waste, reducing food waste, minimizing the carbon footprint of food and food waste through strategies such as buying local, buying less, and encouraging plant rich diets, the need to eliminate landfilling food waste, and how they can participate is needed.

The campaign could use a variety of channels to reach the public, including local radio, print media, social media, school partnerships, and business and tourism marketing channels. This campaign could also partner with community organizations, businesses, and other stakeholders to promote the message of reducing food waste.

NEXT STEPS

Strategic goals following the first phase of the Zero Food Waste 2030 goal should focus on (i) engaging and leveraging support from aligned partners to refine, advance, and scale the strategies launched during the first phase, (ii) continuing to building public awareness and support, and (iii) creating the infrastructure and policies that will be necessary to capture, divert and process at full scale for the success of the Zero Food Waste 2030 goal.

REDUCTION AND DIVERSION: RESIDENTIAL STRATEGIES

Increased participation in curbside food waste collection programs

As the curbside food waste collection pilot program stabilizes with 1,000 new participants and sustainable food waste receiving programs are stable and capable of receiving the steady and growing demand, we recommend pursuing efforts to grow participation rates in this program.

Eventually, the curbside food waste collection program will reach a natural saturation point of voluntary participation. In order to achieve Zero Food Waste from residential sources, the community will need to take additional steps to increase the diversion of food waste. Strategies for consideration should include making curbside food waste collection an opt-out program, rather than opt-in, or going even further and providing curbside food waste collection services to all residents served by Summit County municipal waste services.

Expanding curbside food waste to HOAs and other residents served by private contractors

Further building on the successes and lessons learned from the curbside food waste collection pilot program, curbside or other convenient collection services should be expanded to residents who receive their waste services from private contractors.

REDUCTION AND DIVERSION: COMMERCIAL STRATEGIES

Commercial food waste ordinances

As the community becomes increasingly confident in the ability to divert and process food waste in sustainable manners and is ready to begin scaling efforts, it will be important to create a stronger regulatory framework requiring food waste diversion.

To successfully reach the goal of Zero Food Waste, it is essential to collaborate closely with Summit County officials to establish ordinances focused on managing food waste in commercial sectors. This regulatory framework should empower the designated authorities with the necessary discretion to develop and utilize effective enforcement tools as needed. Such a framework is vital for ensuring that the ordinances are not only implemented but are also adaptable and effective in achieving the desired outcomes in waste management practices.

WASTE PROCESSING: POTENTIAL CAPITAL INVESTMENTS AND MAJOR FACILITIES

We believe that the initial phase of the Zero Food Waste 2030 goal should focus on establishing the necessary support and volume of food waste diversion at a scale sufficient to sustain larger capacity food waste processing facilities. Maintaining a balance between the volume of food waste diverted and the local capacity for receiving and processing food waste using climate-friendly strategies is critical.

Nevertheless, an obstacle to increased commitment to food waste diversion is a real or perceived lack of capacity to receive and process food waste. Incrementally increasing the capacity for food waste processing will be a necessary early action. The projected volume of food waste diverted will increase through the voluntary curbside collection pilot and increased interest in food waste diversion efforts from other individuals and businesses. It will be important to ensure capacity to process this increased volume of diverted food waste.

While the volume of food waste diverted in the early phase of this initiative likely will not need a major capital investment, emerging technologies supporting smaller-scale food waste processing may provide a solution to balance increased volume of food waste diversion and provide a useful demonstration of how to address food waste diversion and sustainably process such waste locally.

Expanded composting services

Food waste composting in Summit County is currently done by Spoil to Soil. Because the volume of food waste is expected to increase as a result of this effort, It is important that food waste processing services like Spoil to Soil or other such services that may exist in the future are capable of scaling to meet the incremental demand. Support for expanding composting services may include grants or financing for such services to acquire necessary land and equipment. Support may also be necessary to identify end users who will acquire compost for farming or other purposes.

Anaerobic digester

Anaerobic digesters can be an effective way to mitigate organic landfill waste. The anaerobic digestion process for food waste captures the methane gas to be used as a renewable energy source rather than allowing emissions to escape directly into the atmosphere. The natural byproduct of methane combustion is carbon dioxide and water. While this methane combustion does result in carbon emissions, this is a much less climate-impactful alternative than methane emissions and avoids carbon emissions that would otherwise come from other energy sources currently used for heating and energy.

Acquisition of a large-scale anaerobic digester requires several critical elements in order to be feasible. First, a digester requires a steady supply of food waste or other organic material. Interruptions in the digestion process are a significant detriment to the ability of the digester to function. Because a digester relies on finely tuned chemistry to continue the digestion process, it is not feasible to stop and restart the digestion process. Without sufficient feedstock material, the chemistry is interrupted. Second, the ongoing operation of a digester requires ongoing evaluation of the material to ensure the right chemical reactions are occurring. Salts are a major problem for digesters. Having too much salt and not enough other organics and metals can cause failures in the digestion process and equipment failure faults. Third, an anaerobic digester creates a waste stream that requires strategies to treat properly. The high concentration digestate water is often recycled back to the digester, which can sometimes upset the balanced chemistry within the digester. These challenges can be mitigated but require a certain level of expertise and analysis to develop acceptable uses for any byproducts from the digestion process or appropriate disposal strategies.

Finally, a community-scale anaerobic digester is a costly investment. Until the community is able to develop a greater understanding of the volume, reliability and quality of its food waste stream, an investment in a large digester may be premature. Careful planning and analysis need to happen before making such a commitment.

Transfer station

Some zero-waste proponents advocate for single-stream recycling, where materials are sorted at a centralized sorting facility that employs various technologies, robotics, and AI to sort recyclable waste into distinct categories for appropriate recycling uses. Markets for cardboard recycling will currently reject products that are contaminated by food waste, so mixing food waste into single-stream recycling is not currently a viable strategy. Having a sorting facility for single-stream recycling that does not include food waste seems to have the potential for diverting cardboard and other recyclable waste from the landfill and is worth further exploration. This strategic plan focused exclusively on food waste.

Waste to energy



Waste to energy facilities combust waste of all types to create energy. Such a facility would require a significant capital investment that is often offset by the sale of electrical energy to consumers. Waste-to-energy facilities significantly reduce waste in the landfill and are able to capture many of the harmful gases that would otherwise be emitted into the atmosphere. If these facilities do not have sufficient waste to meet energy needs, they typically resort to burning natural gas or other fuels, which have an additional negative climate impact. While waste to energy facilities have their place in waste management and climate mitigation strategies, such an approach does not seem feasible or desirable as a strategy for the Summit County community under current circumstances where other less expensive solutions are viable with a greater net benefit to reducing greenhouse gas emissions.

Biomass Facility

A biomass processing facility is another option for diverting organic waste from the landfill. A biomass facility could achieve a critical volume of organic waste from forest management strategies and accept other forms of organic waste, such as food scraps, yard waste, and paper products to generate electrical energy.

Gypsum, Colorado is home to the Eagle Valley Clean Energy Biomass facility, an electrical power plant that generates electricity from the combustion of waste wood.

The Inflation Reduction Act

The Inflation Reduction Act provides federal support for climate reduction capital investments through tax credits and grants. These investments can be used to support a variety of projects, including waste reduction and recycling projects, such as composting and anaerobic digestion. The availability of federal funding and tax credits to support capital investment in climate mitigation strategies presents an opportunity for the Zero Food Waste 2030 goal to explore a capital investment to support food waste processing.

CONCLUSION

The Climate Fund has adopted a bold and ambitious plan to achieve Zero Food Waste by 2030. Success will require the cooperation of major stakeholders in the Summit County community and support and commitment by community institutions, municipalities, businesses, individuals, and tourists alike. Working together, the community can reduce the environmental harm caused by food waste, save money on waste disposal costs, and create a more sustainable future.

The plan identifies three main objectives: reducing and diverting food waste, developing waste processing strategies and measuring progress. To achieve these objectives, the plan outlines a number of strategies, including building a coalition of partners, educating the public, providing convenient and affordable options for diverting food waste, and supporting increased scale of waste processing services.

Eliminating food waste is a solvable challenge that relies on local stakeholders taking entirely feasible steps. The Climate Fund can catalyze action by creating the data and systems to measure successful efforts to divert food waste and quantify negative impacts avoided, identify best practices and key challenges, and support the successful implementation of climate-friendly strategies. The Climate Fund has the ability to lead collaboration and action to divert food waste from the landfill, mitigate negative impacts of food waste, and provide a model for communities across Utah and other mountain towns.