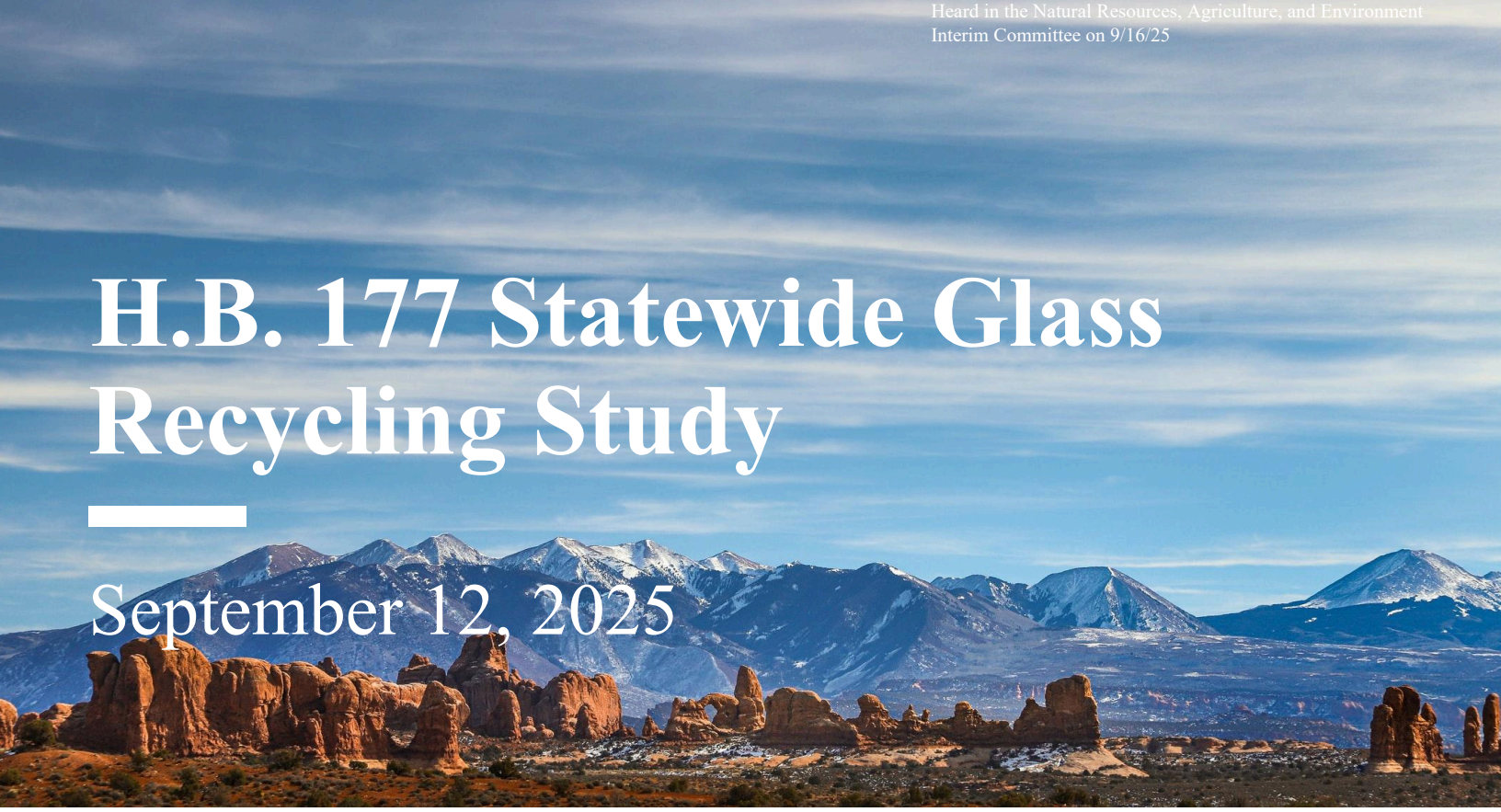
Heard in the Natural Resources, Agriculture, and Environment
Interim Committee on 9/16/25



H.B. 177 Statewide Glass Recycling Study

September 12, 2025

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UTAH DEPARTMENT *of*
ENVIRONMENTAL QUALITY
WASTE MANAGEMENT
& RADIATION CONTROL

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2.0 Definitions, Abbreviations, & Acronyms

Definitions

- Glass cullet: Broken or crushed glass suitable for reuse or reprocessing
- Material recovery facility: a facility that sorts recyclable material from single-stream recycling for sale to manufacturers
- Multi-stream recycling: the sorting or separating of recyclable material by a consumer by material type or category before collection
- Municipal solid waste: commonly known as trash or garbage, is a waste type consisting of everyday items that are discarded by households, institutions, and businesses.
- Recyclable material: municipal solid waste that is suitable for recycling (e.g. paper, plastic, metal, and glass)
- Single-stream recycling: the collection of recyclable material by a public entity or a person with whom the public entity has a collection agreement. The recyclable material collected is commingled in the same container, unlike multi-stream recycling where glass is separated from other recyclables.

Abbreviations and Acronyms

Division	The Division of Waste Management and Radiation Control in the Utah Department of Environmental Quality
Bill	2025 House Bill 177
EPR	Extended Producer Responsibility
H.B.	House Bill
MRF	Material Recovery Facility
MSW	Municipal Solid Waste
n.d.	No date
NRAE	Natural Resources, Agriculture, and Environment
UDEQ	Utah Department of Environmental Quality
UIPA	Utah Inland Port Authority

3.0 Disclaimer, Resources, & Acknowledgements

Disclaimer

The information provided in this report is intended for informational purposes only. Mention of business entities or trade names should not be interpreted as endorsement.

Quick Resources

To find a glass recycling location near you, use Momentum Recycling's Locator Tool. You can also check out Momentum Recycling's curbside page to see if curbside glass recycling is available in your area, to order a bin, or request curbside glass recycling service in your city. View Utah's recycling interactive map and statewide recycling data at Recycle.utah.gov and on the associated recycling dashboard.

Acknowledgements

The Utah State Legislature - for requiring this study to thoughtfully identify policies that will increase glass recycling in the State.

John Lair, CEO and Co-Founder of Momentum Recycling - for providing extensive glass recycling knowledge and expertise and for continuous support and review of this report.

Ryan Smith, CEO and Founder of Recyclops - for providing details on the glass recycling services that Recyclops provides.

Jessica Thacker, Program Manager of Canyonlands Solid Waste Authority - for providing information about current glass recycling services in Moab and efforts to improve them.

D'yani Wood, Web Specialist, UDEQ - for designing infographics for this report and the corresponding presentation to the Legislature.

4.0 Overview & Summary

Glass is primarily composed of silicon dioxide which never decomposes in a landfill. For example, the old North Temple Landfill closed in 1979 and cleanup of the landfill started in the Spring of 2025, and perhaps not surprisingly, one of the most noticeable materials brought to the surface in the excavator's second scoop was

glass as “it clinked with glass bottles” (McKellar 2025). Fortunately, glass can be recycled. In fact, glass is one of the few, if not only, waste materials from businesses and households in Utah that is recycled and transformed into a new product within the State. Glass recycling is beneficial not only because it prevents a material from sitting as an indefinite waste in our landfills, but glass recycling, similar to recycling of other materials, also conserves natural resources, creates jobs, reduces energy consumption, and reduces pollution (The United States Environmental Protection Agency 2025).

In the 2025 General Session, Utah legislators recognized the value of recycling glass by passing House Bill 177 (H.B. 177, the Bill). This Bill requires the Division of Waste Management and Radiation Control (Division) to conduct a statewide study on how to increase glass recycling in Utah. The Bill also requires the Division to report the results of the study to the Natural Resources, Agriculture, and Environment (NRAE) Interim Committee at or before the committee’s September 2025 interim meeting. This document addresses the study requirement, including how the Division performed the study, and the results of the study for each required component listed in the Bill under Utah Code Section 19-6-510(2).

Through this study, several findings were identified and the Division is making several policy recommendations to the NRAE Committee.

Overall Findings

1. Utah is at an advantage for glass recycling because we have a well established recycler, Momentum Recycling, LLC (Momentum Recycling) that works directly with an in-state company, Owens Corning, which uses glass cullet from Momentum Recycling to produce fiberglass insulation.
2. Utah is using the most cost effective and efficient method for glass recycling, which involves collecting glass by multi-stream recycling and preparing the glass for fiberglass or other crushed glass product production.
3. Glass recycling services (drop off bins and curbside collection) are primarily located along the Wasatch Front and are limited in rural Utah areas.
4. Utah MRFs do not currently accept glass for recycling, but if Utah wants to increase funding for MRFs, recycling infrastructure grants, extended producer responsibility, and bottle bills are options that other states have implemented and that Utah may consider.
5. MRFs in Utah and Momentum Recycling agree that expanding single-stream recycling to include glass would be extremely financially burdensome and would result in increased contamination of other recyclable materials with glass.
6. Glass cullet can be recycled to produce a variety of products, such as fiberglass insulation, drainage media, asphalt, concrete, blasting media, tiles, landscaping materials, and filter media, and there is further opportunity to expand the glass recycling ecosystem in Utah.
7. Expanded, statewide outreach efforts are likely to increase glass recycling in Utah and should focus on clear and consistent messaging, taking advantage of current glass recycling resources, and partnering with UDEQ, recycling entities, and municipalities.

Overall Policy Recommendations

1. Require glass recycling to be considered as part of the scope of work for all State solicitations for projects to remodel or demolish buildings.
2. Require the prioritization of materials with recycled glass for all construction done under state contract.
3. Require all liquor stores throughout the State to host a glass recycling drop off bin on site or at another location within a certain radius of the liquor store.
4. Require each municipality with a current or future inland port to consider using their inland port to transport glass waste or other recyclable materials to a location for recycling.

5.0 Methods

To make this study as accurate, applicable, and beneficial as possible, a variety of methods and associated resources were used. First, the authors of this study met with leadership at Utah's only glass recycling facility, Momentum Recycling, talked through the current status of glass recycling in the State, the Bill, opportunities to improve glass recycling, and received a tour of the glass recycling operations.

Glass recycling methods were identified and defined through detailed discussions with Momentum Recycling and online research.

Most current glass drop off locations were identified using current lists available on Momentum Recycling, Wasatch Front Waste & Recycling, and Washington County Solid Waste's websites. Grand County locations were identified through conversation with Moab's Community Recycle Center. Drop off locations in Cache County were identified through discussion with the Logan City Corporation. Momentum Recycling hosts the most complete list of drop off locations in the State. Best practices for drop off bins were identified through an understanding of general safety concerns in publicly accessible areas, and conversations with industry experts about successful contamination control and aesthetic integration campaigns.

Areas in the State with curbside glass recycling services were identified by using the current list on Momentum Recycling's website and through discussions with Recyclops leadership to identify the cities where Recyclops provides curbside services. Counties with drop off locations, curbside services, or both were further verified by reaching out to contacts for each County in Utah, the Logan City Corporation, and Washington County Special Service District #1.

Current and potential future Utah policies that support funding for material recovery facilities (MRFs) were identified through a survey distributed to Momentum Recycling and all active MRFs in the State, as well as through online research of policies in place in other states. The survey was also used to identify benefits and challenges of expanding single-stream glass recycling in Utah.

Uses of glass cullet were identified through a literature review and conversations with Momentum Recycling leadership.

Educational strategies for informing the public of the benefits of glass recycling and how to recycle household glass were identified through a review of online resources.

6.0 Results of the Study

The following sections address the required components of the study defined under Utah Code Section 19-6-510(2), where it states that "The division shall conduct a statewide study of glass recycling that: includes [or identifies]..."

19-6-510(2)(a) - "an inventory of current glass recycling methods"

Generally, there are four different glass recycling methods that glass recyclers throughout the United States implement, which are defined by (1) the source of glass for recycling and (2) the intended product for the recycled glass.

1. Glass recyclers may receive glass collected from:
    a. Multi-stream recycling, where the consumers sort and separate waste glass from other recyclable materials and place the waste glass in a bin designated for waste glass recycling only.
    b. Single-stream recycling, where the consumers place waste glass into a single-stream recycling container, which also includes recyclable materials like paper, plastic, and metals.
2. Glass recyclers may sort and prepare recycled glass for manufacturers to produce:
    a. Fiberglass and other crushed glass materials.
    b. New glass containers.

How the state or municipality sets up their glass collection processes determines whether glass recyclers receive materials collected from multi-stream or single-stream recycling. Whereas, the intended end product for the glass prepared by glass recyclers tends to depend on the companies that are nearby to the glass recycling facility and the companies the glass recycling facilities are contracted with. For example, the glass recycling facility, Glass to Glass Denver in Colorado, is situated near to the Rocky Mountain Bottle Company and so this recycling facility prepares glass for bottle manufacturing. Glass to Glass Denver is designed to produce glass cullet that meets the specifications to produce glass bottles, whereas Momentum Recycling, for example, is situated near to a fiberglass plant and so it is designed specifically to produce glass cullet for fiberglass insulation production. If the intended end product changes, then the associated glass recycling facility must be redesigned or a new facility altogether may need to be constructed.

Each of the glass recycling methods inherently have different pros and cons. The glass source for recycling tends to have the biggest impact on the method itself because when waste glass is collected by single-stream recycling, it must first go to a MRF to be sorted separately from the other recyclable materials, then sent to a glass recycler for further processing. This adds an additional step and associated facility for processing the glass for recycling; more glass handling and potential for injuries, as well as contamination of the other recyclable materials with glass, which reduces the value of those materials. The following table (Table 1) provides a brief description of each of the four methods and corresponding pros and cons of each method.

Table 1. The four general glass recycling methods and associated pros and cons, which depend on the source of glass and the intended final product.

Method #	Source of Glass and Intended Final Product	Method Description	Pros	Cons
1	Collected from multi-stream recycling and intended for fiberglass or other crushed glass product production.	Waste glass is sorted to remove minor contaminants and then crushed to the appropriate size depending on the requirements of the final product.	Avoids glass contamination in other recyclable materials. Reduces the amount of glass handling and therefore reduces the risk of injury. Less complicated and less expensive equipment needed. Increased glass capture. Glass plates can be used and the glass does not have to be sorted by color.	Requires consumers to separate glass from other recyclables, which takes more effort and may reduce glass recycling participation.
2	Collected from multi-stream recycling and intended for glass container production.	Waste glass is sorted to remove minor contaminants and is also sorted by color. Each color of glass is crushed to the appropriate size for glass container production.	Avoids glass contamination in other recyclable materials. Reduces the amount of glass handling and therefore reduces the risk of injury. Less complicated and less expensive equipment needed. Increased glass capture.	Requires consumers to separate glass from other recyclables, which takes more effort and may reduce glass recycling participation. Glass must be sorted by color and glass plates cannot be recycled.

3	Collected from single-stream recycling and intended for fiberglass or other crushed glass product production.	Single-stream recycling bin materials (e.g. paper, plastic, metal, and glass) are first delivered to a MRF for sorting. The MRF runs all of the materials through a breaker and a screen, which breaks the glass and screens it out, along with any other materials small enough to fit through the screen holes. The resulting mix of broken glass and small materials are then sent to a glass recycler for further processing. The glass recycler then sorts the material to remove contamination from the small materials and then crushes the glass to the appropriate size depending on the requirements of the final product.	Consumers do not have to separate glass from other recyclables, which takes less effort and may increase glass recycling participation.	Glass contamination in other recyclable materials. Increased glass handling, including glass sorting at a MRF prior to glass sorting at a glass recycler, which increases the potential for injury. More complicated and more expensive equipment needed. Reduced glass capture.
4	Collected from single-stream recycling and intended for glass container production.	Single-stream recycling bin materials (e.g. paper, plastic, metal, and glass) are first delivered to a MRF for sorting. The MRF runs all of the materials through a breaker and a screen, which breaks the glass and screens it out, along with any other materials small enough to fit through the screen holes. The resulting mix of broken glass and small materials are then sent to a glass recycler for further processing. The glass recycler then sorts the material to remove contamination from the small materials, sorts the glass by color, and then each color of glass is crushed to the appropriate size for glass container production	Consumers do not have to separate glass from other recyclables, which takes less effort and may increase glass recycling participation.	Glass contamination in other recyclable materials. Increased glass handling, including glass sorting at a MRF prior to glass sorting at a glass recycler, which increases the potential for injury. More complicated and more expensive equipment needed. Reduced glass capture. Glass must be sorted by color and glass plates cannot be recycled.

In the United States, there are about 30 different glass recycling facilities that employ these methods to varying degrees, often depending on proximity to a fiberglass plant or glass container manufacturer (Glass Recycling Foundation, n.d.). In Utah, there is one glass recycling facility, Momentum Recycling, which is contracted with Owens Corning to provide glass cullet for fiberglass insulation production. Momentum Recycling employs Method #1 described in Table 1, which consists of collecting glass from multi-stream recycling (glass-specific bins) and preparing the glass to produce a crushed glass product. This method is the least expensive, least complicated, and is appropriate for the nearby manufacturer to produce fiberglass insulation. Additionally, it

avoids glass contamination in other recyclable materials and reduces the amount of glass handling and associated injury risk.

Findings and Policy Recommendations

Utah is using the most cost effective and efficient method for glass recycling in association with a fiberglass manufacturer. There are no policy recommendations associated with this section.

19-6-510(2)(b) - "areas in the state that may benefit from increased glass recycling"

Areas in the state that may benefit from increased glass recycling are those areas that do not currently have or have limited glass recycling services and areas where a significant amount of glass waste is going to the landfill instead of being recycled. As shown in Figure 1, at this time, 15 of 29 counties in the State of Utah have glass recycling services (drop off, curbside, or both). The counties that have both curbside and drop off glass recycling services are primarily located along the Wasatch Front. Whereas counties that have drop off only or curbside only services are counties off the Wasatch Front, but comparably near to Salt Lake County, or, located in the Southwest corner of Utah. The reason for this pattern is because the only glass recycler in Utah, Momentum Recycling, is located in Salt Lake County. Generally, the further a county is located from Momentum Recycling, the more expensive glass recycling becomes, primarily because of the cost to transport the glass to Momentum Recycling for sorting and processing. Iron and Kane Counties are an exception to this rule because glass from these counties is transported to a glass recycling facility located in Las Vegas, Nevada. For Washington County, glass is collected at small recycling stations around St. George, called "binnies." The St. George glass is then picked up, brought to the County landfill, put into a bunker, and once the bunker is full, Momentum Recycling is called to send a dump truck to transport the glass to Salt Lake County for recycling.

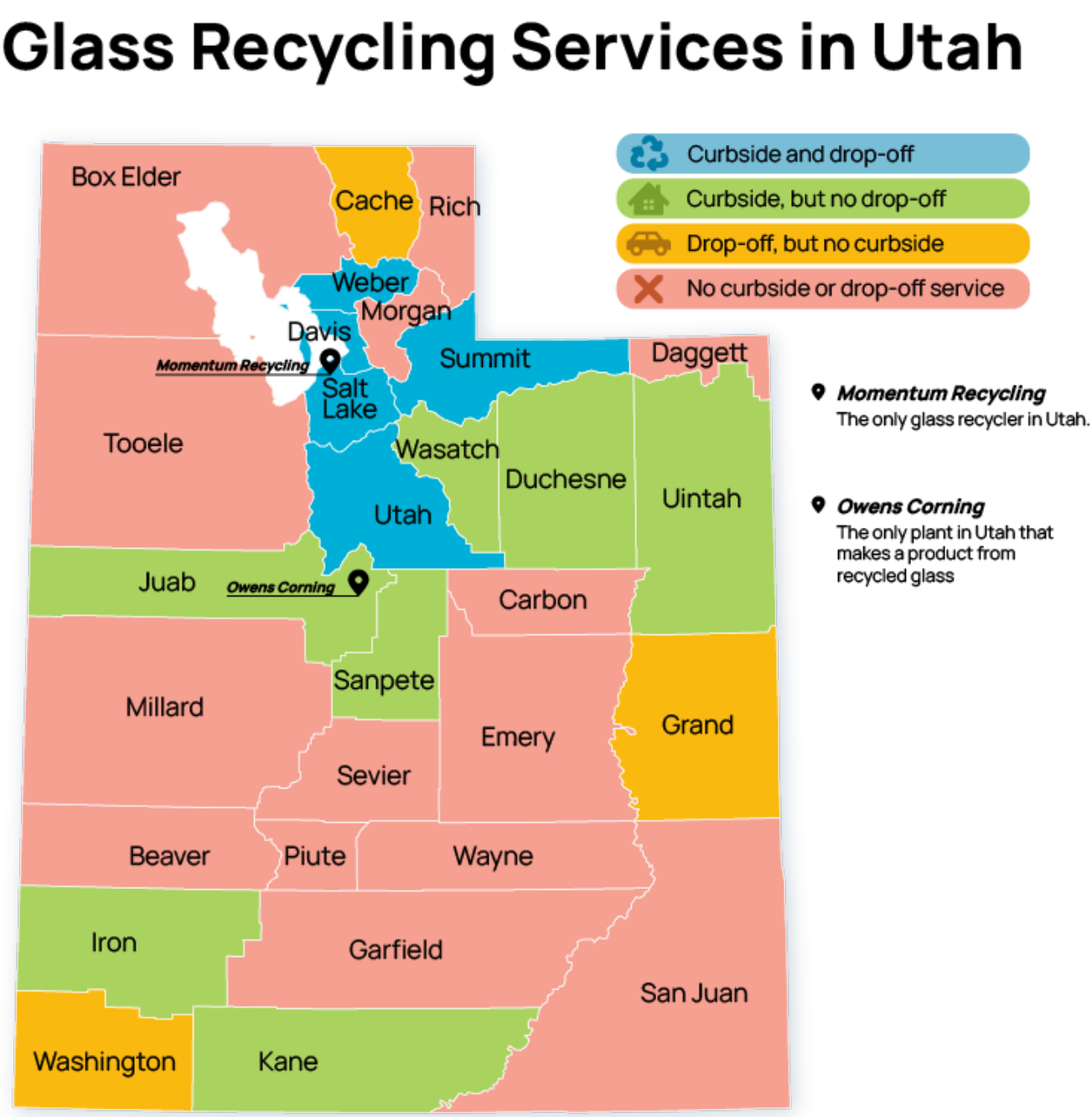

Figure 1. Map of Utah that shows the glass recycling services available in each county.

Transportation costs make it difficult for glass recycling in rural Utah counties to be feasible. This is often the case for regular blue-bin recycling as well since the majority of the MRFs in Utah are located along the Wasatch Front. Since rural Utah covers such a wide area, multiple glass recycling facilities across rural Utah would need to be strategically located, which comes with its own challenges. Alternatively, Utah may have the opportunity to take advantage of the unique inland port system that is being built out throughout the State and is managed by the Utah Inland Port Authority (UIPA) (Utah Inland Port Authority, n.d.).

The inland port system consists of strategically located project areas to facilitate the movement of goods in Utah by road, rail, and air. It may be possible to make this system even more efficient by utilizing it to fill potentially empty containers returning back to the Wasatch Front with recyclable materials, particularly glass, to be dropped off at Momentum Recycling for recycling. This may not be the first use of the inland port system that comes to mind when a municipality is planning for their project area and continued use of that area. To make it more likely that movement of glass for recycling is considered, a policy could be passed that requires each municipality with a current or future inland port to consider transportation of glass and other recyclable materials as a use for their inland port.

It is more difficult to answer which areas are sending significant amounts of glass to the landfill instead of sending it for recycling. However, the Division is currently performing a waste characterization study at 30 landfills located throughout the State and in the following counties: Beaver, Box Elder, Cache, Carbon, Davis, Duchesne, Emery, Garfield, Grand, Iron, Juab, Kane, Millard, Rich, Salt Lake, Sanpete, Sevier, Summit, Tooele, Uintah, Utah, Washington, Wayne, and Counties. This waste characterization study will measure how much of different types of materials (e.g. paper, plastic, glass, etc.) are going into a particular landfill. By comparing the amount of glass going into each landfill, a certain region or regions of Utah can be identified that dispose of significantly more glass compared to other regions. Then, it is a matter of determining whether the region is located in an area that already has glass recycling services or not. If the region does not have glass recycling services, then glass recycling services in that area would be particularly impactful. However, if the region identified already has glass recycling services, then it is a question of whether these services are sufficient and how to increase participation in glass recycling. While this data is not currently available, the Division is collecting it and will make the data available for review and to further support this study as soon as possible.

Findings and Policy Recommendations

Curbside and drop off glass recycling services are more readily available along the Wasatch Front due to proximity to the only glass recycling facility in Utah, Momentum Recycling. In turn, rural Utah may benefit from increased glass recycling. To potentially reduce the cost and make glass recycling in rural Utah more feasible, a policy may be passed that requires municipalities with a current or future inland port to consider taking advantage of the inland port system to transport glass from rural Utah to the Wasatch Front for recycling.

19-6-510(2)(c)(i) - “strategies for increasing the amount of glass collected by:” “increasing the number of glass recycling drop off locations”

A glass recycling drop off location is a location that hosts a bin that the public can use to drop off glass for recycling. A network of glass recycling drop off locations exist in the State of Utah, which is mainly facilitated by Momentum Recycling in partnership with Wasatch Front Waste & Recycling and various municipalities. Momentum Recycling’s website has an interactive map that helps users find glass recycling drop off locations

near them. Both Momentum Recycling and Wasatch Front Waste & Recycling maintain current lists of glass drop off locations that they support in Utah. Table 2, below, shows all cities in Utah with glass recycling drop off locations that were identified through this study.

Table 2. Counties in Utah and cities and towns in those counties that have glass recycling drop off locations.

Counties with Drop Off Locations	Cities and Towns with Drop Off Locations
Cache County	Logan
Davis County	Centerville Farmington Kaysville Layton
Grand County	Moab
Salt Lake County	Cottonwood Heights Draper Herriman Holladay Kearns Midvale Millcreek Murray Riverton Salt Lake City Sandy South Jordan South Salt Lake Taylorsville West Jordan West Valley City
Summit County	Park City
Utah County	Eagle Mountain Lehi Orem Pleasant Grove Provo
Washington County	Apple Valley Brookside Central Dammeron Valley Enterprise Harrisburg Hurricane Ivins La Verkin Leeds New Harmony Rockville

	Santa Clara Springdale St. George Toquerville Veyo Virgin Washington
Weber County	Ogden Roy South Ogden City

The areas in the State that tend to be lacking in glass recycling drop off services are rural. To increase glass recycling in Utah, additional glass recycling drop off locations should be added to Utah's network that are geographically equitable and located in high-traffic areas or community hubs throughout Utah. This selection process will provide increased accessibility, visibility, convenience, and use by Utah residents:

1. Geographic Equity: glass recycling drop off locations should be distributed throughout the state of Utah so that glass recycling is an opportunity that is available to all residents, no matter their geographic location. In particular, additional glass recycling drop off locations should be added to rural Utah counties that don't currently have recycling services (see Figure 1).
2. High-Traffic Areas and Community Hubs: new drop off locations should be selected in areas where residents already frequent and areas that are along daily travel routes. For example, Murray City recently relocated a glass recycling drop off location to Murray Park. This location change increased accessibility and use of the drop off bin.

Some examples of ideal locations for a glass recycling drop off bin include:

- Grocery store parking lots
- Liquor stores
- Retail parks or shopping centers
- Community centers, recreation facilities, parks, and public libraries
- Municipal facilities (e.g., city halls, transfer stations)
- College campuses

Liquor stores are an excellent option for glass recycling drop off locations as they are accessible across the State and are associated with high volumes of glass waste that could be recycled. In Utah, there are approximately 50 liquor stores distributed throughout the State (Utah Department of Alcoholic Beverage Services, n.d.). This location selection also comes with some potential options for funding either through license fees or taxes on alcoholic beverage sales. For example, in North Carolina, holders of certain Alcohol Beverage Commission on-premise permits are required to recycle beverage containers (North Carolina Department of Environmental Quality, n.d.). Similar to this program, a bill was run during Utah's 2022 General Session called Alcoholic Beverage Recycling Requirements (2022 S.B. 208). This bill would have required alcoholic beverage retail

licensees (bars, restaurants, and other liquor licensees) and event permittees to collect glass for recycling. However, the 2022 S.B. 208 bill did not pass.

Alternatively, a smaller scale bill may be considered that requires all liquor stores throughout the State to host a glass recycling drop off bin on site or at another location within a certain radius of the liquor store. These glass recycling drop off locations may be funded through beverage retail license fees or taxes on the sale of alcoholic beverages. This type of program would be manageable because the State runs most of the liquor stores throughout Utah and regulates all of them. A bill requiring all liquor stores to host a glass recycling drop off location may also include the following best practice requirements:

- Safety: offer safe vehicle access, adequate space for collection bins and sufficient room for residents to deposit glass. Appropriate lighting should also be considered for locations open in the evening.
- Dedicated, clearly marked bins: utilize robust, clearly labeled bins specifically for glass. Distinctive labeling for glass recycling can enhance public recognition.
- Contamination control:
    - Implement highly visible signage at each drop off location clearly outlining what is accepted (e.g., glass bottles, jars, jugs, some windows, broken glass) and what is *not* accepted (e.g., automotive glass, ceramics and porcelain (i.e., plates & dishes), light bulbs, mirrors and Pyrex). Moab's Community Recycle Center attributes their low contamination rates to clear signage.
    - Emphasize that glass is cleaned as part of the recycling process and Momentum Recycling has the ability to remove lids and labels from containers. Currently, lids at Momentum Recycling are sent to the landfill, so separate recycling is encouraged but not required.
- Aesthetic integration: make bins aesthetically pleasing, which can foster a sense of community ownership leading to increased public protection of drop off bins and location sites. For example, Canyonlands Solid Waste Authority in Moab recognizes these benefits and has applied for grant funding to purchase additional glass recycling containers, partner with local artists to beautify them, and place them in public parks within the community.

Effective placement and management of glass recycling drop off locations is paramount to their use through public adoption and fostering trust in the recycling process. Metrics that can be tracked to evaluate the effectiveness of drop off locations including: tonnage of glass collected at each drop off location, frequency of pick-ups by transporters, contamination rates at different locations, and public feedback on the convenience and efficiency of drop off locations.

Additionally, increasing public outreach efforts by distributing information about glass recycling drop off locations via social media, local news outlets, community newsletters and school outreach could aid in increased glass recycling participation.

Findings and Policy Recommendations

Glass recycling drop off locations are limited off the Wasatch Front. Additional sites should be added to Utah's network based on geographic equity and placed in high traffic areas to increase accessibility, visibility, and use.

To increase the number of glass recycling drop off locations, a bill may be run that requires all liquor stores throughout the State to host a glass recycling drop off bin on site or at another location within a certain radius of the liquor store.

19-6-510(2)(c)(ii) - "strategies for increasing the amount of glass collected by:" "increasing the number of, or funding for, material recovery facilities"

A material recovery facility (MRF) is a facility that sorts recyclable material from single-stream recycling (recyclable materials like glass, plastic, metal, and paper placed in one bin) for sale to manufacture new products. In Utah, there are currently six MRFs in the State (The Division of Waste Management and Radiation Control, n.d.). However, none of these MRFs sort glass for recycling since Utah is currently a multistream only glass recycling state. This means that glass is separated from other recyclables by the consumer, prior to pickup for recycling. In previous years there was a small amount of single-stream glass recycling going on in the State, but in July of 2024, Moab was the last community in the State to remove glass from their single-stream recycling. In turn, Moab established two glass-only drop off locations and is currently working to identify additional glass-only drop off locations.

Since Utah's MRFs do not currently accept and sort glass for recycling, increasing the number of or funding for material recovery facilities would not necessarily result in increased glass collection. If a MRF decided to start accepting glass for recycling, it would have its own challenges (see Table 1). That being said, a survey was sent to all MRFs in the State and Momentum Recycling to get feedback on the types of policies that are most helpful in supporting funding for MRFs. The MRFs that responded to the survey mentioned that there is currently not a lot of support or funding for recycling. One MRF mentioned the Utah Recycling Market Development Zone (RMDZ) Act under Utah Code Title 19, Chapter 13. The RMDZ Act provides businesses located in designated zones with tax credits, including, an ~4.7% Utah non-refundable tax credit (varies year to year) on the purchase of machinery or equipment used for composting or recycling and a 20% Utah state income tax credit (up to $2,000) on eligible operating expenses associated with composting and recycling (The Division of Waste Management and Radiation Control 2025).

For potential future Utah policies, the MRFs that completed the survey and Momentum Recycling mentioned several options including recycling infrastructure grants, extended producer responsibility (EPR), and bottle bills. Each of these options are worth discussing, though will not be policy recommendations through this study because they are intended to increase all recycling in the State, go beyond the scope of this study to increase glass recycling, or are more politically challenging to implement compared to other policy recommendations made through this study. However, these are always options that the Utah State Legislature can consider.

Recycling infrastructure grants could provide funding for composting and recycling related machinery similar to the RMDZ Act, but the funding would be provided in the form of a grant rather than a tax credit. These grants would provide more readily accessible funding to recycling facilities to start, expand, or upgrade

operations. The MRFs that completed the survey suggested that the funding for these grants may come from increased landfill tipping fees and the grant program could include a matching requirement. Colorado has a recycling infrastructure grant program called the Colorado Circular Communities Enterprise that may be helpful to look at as an example (Colorado Circular Communities, n.d.).

Extended producer responsibility is another option that could increase the funding for MRFs as it requires the producer to be responsible for end of life management of a product by covering the cost, typically prioritizing recycling. There are a variety of EPR laws in place throughout the United States, primarily focusing on EPR for electronic waste and batteries, but also include plastics, packaging, mercury switches, etc. (Product Stewardship Institute 2025). In Utah, there is one EPR law in place called the Mercury Switch Removal Act under Utah Code Section 19-6-10. EPR laws are beneficial because they put the waste responsibility on the manufacturer, which tends to lead to waste reduction in order to reduce the cost of disposal (e.g. less packaging on a product when an EPR law around packaging is in place). On the other hand, the producer may pass the disposal cost on to customers and thus increase the overall price of the product. If EPR laws are considered in Utah, the Utah Manufacturers Association should be brought into the conversation as they will most certainly be engaged in the topic.

Last, bottle bills, or container deposit laws, could also increase the funding for MRFs. Bottle bills are laws that place a deposit on beverage containers (e.g. aluminum cans, plastic and glass bottles), which is refunded to the consumer when they return the empty container for recycling. Any unclaimed deposits are retained and could be used to support recycling in the State. These types of laws are beneficial because they create an incentive for recycling, but they also put the burden on the consumer rather than the producer. Currently, there are 10 states in the United States of America with bottle bills (Container Recycling Institute, n.d.). It is important to note that if Utah were to consider a bottle bill, the bill should include a range of container types and not solely focus on glass. If a bottle bill for glass only was run, it would disincentivize the purchase of glass containers, which would ultimately lead to less glass being recycled, which is contrary to the goals of this study.

Findings and Policy Recommendations

While Utah MRFs do not currently accept glass for recycling, if Utah wants to increase funding for MRFs, recycling infrastructure grants, extended producer responsibility, and bottle bills are options that may be considered. There are no policy recommendations associated with this section.

19-6-510(2)(c)(iii) - “strategies for increasing the amount of glass collected by:” “expanding [single-stream] [...] glass recycling collection”

Single-stream recycling is the collection of recyclable materials by the public in the same container, whereas multi-stream recycling is collection of recyclable materials in separate containers by the consumer depending on

material type. This difference is important to recognize because both single-stream and multi-stream recycling can technically be managed as "curbside" recycling as the bins used to collect the materials may still be placed on the curb for pickup for recycling. This section was initially regarding "curbside glass recycling", but since curbside overlaps with the section on "multi-stream recycling", this section was retitled to address "single-stream glass recycling", which makes the distinction between the two sections clearer and prevents redundancy.

Figure 2 shows the difference between single-stream and multi-stream recycling. In Utah, single-stream recycling does not currently include glass (no glass in the blue-bin, Figure 2A). If an area has curbside glass recycling services, then the glass is sorted from the other recyclables (e.g. paper, plastic, metal) and placed into its own bin (or bag for some areas in Utah) specifically for glass recycling as shown in Figure 2B.

Figure 2. Images showing the difference between (A) single-stream recycling where all recyclables are put in a single bin by the consumer vs. (B) multi-stream recycling where some recyclables are separated by material type by the consumer. This figure was modified using artificial intelligence.

Since Utah does not currently offer single-stream glass recycling, a survey was sent to all MRFs in the State and Momentum Recycling to get feedback on the benefits and challenges to expanding single-stream glass recycling, what it would take to expand operations to include single-stream glass recycling, and if a policy to expand single-stream glass recycling in Utah would be beneficial. As described in Table 1, there are a number of challenges to collecting glass for recycling through single-stream recycling. The MRFs who completed this survey and Momentum Recycling echoed these challenges. For example, one MRF responded "We just pulled glass from our single stream. We were one of the only places in Utah to collect glass in a single stream. It was considered a contaminant when sent to MRFs. It is also extremely hard on collection vehicles and equipment." In another example, a MRF responded that the glass "...breaks and contaminates other recycling material. Once it is sorted it is too contaminated with all other material to make it viable for glass recyclers to separate the material into a saleable product." Another MRF acknowledged that single-stream glass recycling may increase

glass recycling participation, but would also result in increased contamination of recyclable materials with broken glass.

The MRFs consistently stated that it would require a significant amount of investment to expand operations for single-stream glass recycling. One MRF also stressed that "It would also require us to re-educate our residents to include glass in the bin. We have spent a significant amount of money in our current education campaign and would need to start over." Momentum Recycling's response stated that "The existing Momentum Recycling Plant could not be modified to accommodate MRF glass. An entirely new plant would be needed on a larger property. I would expect such a plant to cost $20 million or more."

Finally, when MRFs and Momentum Recycling were asked if they think a policy to expand single-stream recycling to include glass in Utah would be beneficial, only one respondent stated that it would be beneficial. Other respondents did not think it would be beneficial, but were supportive of other policies that increase glass recycling in general and single-stream recycling without glass. For example, one respondent stated that "A policy expanding blue-bin recycling WITHOUT GLASS would be extremely beneficial. A policy to expand blue-bin recycling to include glass would be very harmful and require the existing glass recycling system in the region to be rebuilt from the ground up."

Findings and Policy Recommendations

Utah does not currently offer single-stream glass recycling where glass can be placed in the same bin as other recyclable materials by consumers. MRFs in Utah and Momentum Recycling agree that expanding single-stream recycling to include glass would be extremely financially burdensome and would result in increased contamination of other recyclable materials with glass. Considering this feedback from industry, no policy recommendations for this section were identified.

19-6-510(2)(c)(iv) - "strategies for increasing the amount of glass collected by:" "expanding multi-stream recycling collection and processing"

In Utah, multi-stream glass recycling includes drop off and curbside glass recycling because in both service types the glass is separated from other recyclables by the customer. Curbside glass recycling is available in a number of different counties, including some rural counties like Juab, Sanpete, Uintah, Iron, and Kane Counties (Table 3). Curbside services are primarily provided by Momentum Recycling, but they are a bit more expensive compared to drop off services (Table 2) because Recyclops also offers curbside glass recycling services and supports more of Utah's rural counties with these services. If an area is provided curbside service by Momentum Recycling, then the customers typically have a separate glass bin, whereas areas provided curbside service by Recyclops typically have a separate bag for glass collection. Table 3 lists the counties with multi-stream, curbside glass recycling services and the corresponding cities or towns in those counties.

Table 3. Counties in Utah and cities and towns in those counties that have multi-stream, curbside glass recycling pickup services.

Counties with Multi-Stream, Curbside Pick Up	Cities and Towns with Multi-Stream, Curbside Pick Up
Davis County	Bountiful Centerville Farmington (Coming Soon) Kaysville (Coming Soon) Layton (Coming Soon) North Salt Lake West Bountiful Woods Cross
Duchesne County	Neola Roosevelt
Iron County	Cedar City Enoch
Juab County	Nephi
Kane County	Kanab
Salt Lake County	Cottonwood Heights Draper Emigration Canyon Granite Herriman (Coming Soon) Holladay Kearns (Coming Soon) Magna (Coming Soon) Midvale Millcreek Murray North Salt Lake Salt Lake City Sandy South Salt Lake Taylorsville West Valley City White City
Sanpete County	Ephraim Fairview Manti Mt. Pleasant Spring City
Summit County	Francis Kamas Park City
Uintah County	Jensen Naples Vernal

Utah County	Lehi (Coming Soon) Mapleton
Wasatch County	Daniel Heber City Hideout Midway

In addition to finding ways to reduce the cost of glass transportation for recycling such as using Utah's inland port system (see overall policy recommendation #1), education and outreach is crucial to increasing public awareness, trust, and use of glass recycling services. Strategies to inform the public are detailed in another section (19-6-510(2)(c)(vi)), but there is one important example that will be discussed in this section with a corresponding, recommended policy change.

When Representative Welton presented the Bill to the House NRAE Committee on February 3, 2025, he mentioned that in talking with Senator Owens, he learned that during the remodeling of the North Capitol Building, they didn't know what to do with 4 million dollars worth of glass that was 10 years old (Utah State Legislature 2025). Glass from buildings is accepted by Momentum Recycling for recycling. In fact, Momentum Recycling works with several construction and demolition companies that take building glass directly to Momentum Recycling for recycling. Unfortunately, the glass removed during the remodeling of the North Capitol Building did not end up getting recycled. This was primarily due to a lack of knowledge and foresight of the option to recycle the glass. This is not an uncommon problem, as Momentum Recycling explained that they have received calls from construction companies during demolition (not before) asking how to separate the window glass for recycling and about the cost of glass recycling.

This type of issue can be prevented in the future if glass recycling is required to be considered as part of the scope of work for all State solicitations for projects to remodel or demolish buildings. Requiring glass recycling to be considered not only increases the knowledge of glass recycling throughout the State, but also increases the likelihood of glass from buildings to be recycled, resulting in increased multi-stream glass recycling. The Legislature may also consider making glass recycling a required component of certain State solicitations rather than a consideration.

Findings and Policy Recommendations

There are no new findings for this section. A policy recommendation identified based on a recent example of a missed glass recycling opportunity in Utah is to require glass recycling to be considered as part of the scope of work for all State solicitations for projects to remodel or demolish buildings.

19-6-510(2)(c)(v) - "strategies for increasing the amount of glass collected by:" "identifying additional uses or end users of glass cullet"

Glass cullet, crushed glass that is suitable for reuse or reprocessing, has a wide range of traditional and emerging applications across industries. Two of its primary uses are in the production of new glass containers and the production of fiberglass insulation.

In the construction and infrastructure sectors, cullet serves as an aggregate substitute in concrete and asphalt, replacing sand or gravel in road bases and pavement (Dhir OBE et al. 2018), (Tholkamudalige Anupiya. M. Perera 2021). A specific application, known as "glassphalt," involves mixing cullet with asphalt to pave roads and parking lots (Andela Products, n.d.). Additionally, cullet is used as backfill or drainage media in retaining walls and septic systems due to its high permeability (HDR Engineering, Inc. 1997).

In industrial settings, fine cullet is employed as an abrasive blasting media, commonly replacing silica sand in sandblasting processes, offering a safer, non-toxic alternative that produces less dust. In manufacturing and consumer goods, cullet is used in ceramics and tile production, where it is added to glazes or mixed into the tile materials. It is also foamed and heated to create lightweight glass foam insulation panels, ideal for use in foundations, green roofs, and soundproofing systems (Silva et al. 2017, 346-364). In landscaping, tumbled glass cullet is often used decoratively in xeriscaping or as glass mulch for aesthetic appeal.

Emerging and niche uses of glass cullet include its role as a water filtration media in industrial stormwater or drinking water systems. It is also gaining popularity among artisans who use recycled glass to create handcrafted, artisanal glass products, further expanding the potential for sustainable and creative reuse.

In Utah, glass cullet is primarily used for fiberglass production due to Momentum Recycling's proximity to and relationship with the fiberglass insulation plant, Owens Corning. In recent years, glass for fiberglass insulation has been in such high demand that Momentum Recycling has had a difficult time getting enough recyclable glass to keep up with the demand, which is why focusing on policies that increase glass recycling are so important.

Utah is fortunate to have a strong glass recycling ecosystem with both the glass recycler and a fiberglass production plant located in the State. However, market conditions do change and the State should not strictly rely on fiberglass production for use of recycled glass. Momentum Recycling has also prepared glass for use in abrasives and filter media, and there is opportunity to further expand the recyclable glass material market.

To further enhance the glass recycling ecosystem in Utah, a policy could be made that requires the prioritization of materials that use recycled glass for all buildings and other structures built under State contract. Materials with recycled glass may include fiberglass insulation, drainage media, asphalt, concrete, blasting media, tiles, landscaping materials, filter media, art installations, etc. This type of policy would further support Owen Cornings' efforts to promote "policies, research, and demonstration projects in target states that promote glass recycling initiatives and result in increased and persistent availability of recycled glass (glass cullet). These policies promote energy efficiency, conservation of certain raw materials, environmental benefits, and the circular economy" (Owens Corning 2024).

Findings and Policy Recommendations

Glass cullet can be recycled to produce a variety of products, such as fiberglass insulation, drainage media, asphalt, concrete, blasting media, tiles, landscaping materials, and filter media, and there is further opportunity to expand the glass recycling ecosystem in Utah. A policy may be passed that requires the prioritization of materials that use recycled glass for all buildings and other structures built under state contract.

19-6-510(2)(c)(vi) - "strategies for increasing the amount of glass collected by:" "implementing educational strategies for informing the public: (A) of the benefits of glass recycling; and (B) how to recycle household glass"

In the calendar year 2024, 6% of the total municipal solid waste produced in the State was sent to a recycling facility for recycling, leaving 3.5 million tons of material that went to landfills (The Division of Waste Management and Radiation Control, n.d.). This data shows that the majority of material that is being lost to landfilling (opposed to being recycled) is occurring at the consumer step - either the consumer doesn't have access to recycling services, the consumer chose not to recycle the material, or the material isn't recyclable. As discussed, access to glass recycling services is a challenge in rural areas in Utah. However, those that have access to glass recycling services may not be using them for a number of reasons, such as that they don't realize the service is available, they don't see the value in recycling glass, or there is distrust in the recycling system. This is where public education and outreach comes in.

There are several existing programs that can be utilized to assist with a statewide public education effort to increase glass recycling. For example, the Glass Packaging Institute's "Don't Trash Glass" program is a resource to educate restaurants and bars on glass recycling, the benefits such as reduced waste costs, and to make partnerships so that these businesses can start a glass recycling program. Similarly, Momentum Recycling's "Support Blue Businesses" initiative encourages business participation in glass recycling. Additionally, Recycle Utah offers established elementary education programs, teaching youth from preschool to 9th grade about earth's resources and recycling (Recycle Utah, n.d.).

It is important that any statewide messaging about glass recycling is clear and consistent across platforms to avoid confusion. Partners such as UDEQ, Momentum Recycling, Wasatch Front Waste & Recycling District, and municipalities across the State should work together to implement public outreach campaigns, clearly show the value of glass recycling, and how the system works to increase public trust and participation.

For example, when glass was removed from single-stream collection in Moab, employees at the Community Recycle Center received pushback from community members who believed all glass collected at community drop off locations was being sent to the landfill. In an effort to combat misinformation, employees provided

clear and verifiable information about where glass collected for recycling goes and how it is processed by including a QR code linked directly to Momentum Recycling's website that showed the material's destination. This transparent approach is an excellent model for statewide implementation.

To further assist with glass recycling education and outreach, below is a summary of (1) the benefits of glass recycling and (2) how to recycle glass in Utah.

1. **Benefits of glass recycling** (Momentum Recycling, n.d.)
    a. Conserves raw materials: recycling glass significantly reduces the need to extract resources. Over a ton of natural resources are conserved for every ton of glass recycled, including approximately 1,300 pounds of sand, 410 pounds of soda ash, 380 pounds of limestone, and 160 pounds of feldspar.
    b. Endlessly recyclable: glass is unique because it is 100% recyclable and can be recycled endlessly without any loss in quality. 80% of recovered glass containers are transformed into new glass bottles, with the remainder being repurposed into other industrial goods.
    c. Positive economics: energy savings, resource conservation, supporting local industry. The glass collected for recycling by Momentum Recycling is turned into glass cullet, shipped to Owens Corning in Nephi, and turned into fiberglass insulation for homes. This process reduces landfill burden and extends landfill life.
    d. Reduces CO2 Emissions: for every six tons of recycled container glass that is used, a full ton of carbon dioxide is prevented from being released into the atmosphere.
2. **How to recycle household glass**
    a. Drop off bin services (Table 2): Take your recyclable glass to a drop off location near you. Wasatch Front Waste provides drop off locations and Momentum Recycling also has a network of drop off sites.
    b. Curbside services (Table 3): Sign up for or request curbside glass recycling service in your area. Areas serviced by Wasatch Front Waste, Momentum Recycling, Recyclops, and others, offer curbside glass collection services.

Findings and Policy Recommendations

Expanded, statewide outreach efforts are likely to increase glass recycling in Utah and should focus on clear and consistent messaging, taking advantage of current glass recycling resources, and partnering with UDEQ, recycling entities, and municipalities. No policy recommendations were identified for this section.

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