

# **Single-Use Products Working Group Draft Report**

Report to the Vermont General Assembly  
Pursuant to No. 69, Section 3 of the Acts of 2019

Prepared by the Office of Legislative Council

January 3, 2020

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**A. Statutory Charge of Single-Use Products Working Group**

2019 Acts &amp; Resolves No. 69, Sec. 3

**Sec. 3. SINGLE-USE PRODUCTS WORKING GROUP; REPORT**

(a) Creation; purpose. There is created the Single-Use Products Working Group to:

(1) evaluate current State and municipal policy and requirements for the management of single-use products; and

(2) recommend to the Vermont General Assembly policy or requirements that the State should enact to:

(A) reduce the use of single-use products;

(B) reduce the environmental impact of single-use products;

(C) improve statewide management of single-use products;

(D) divert single-use products from disposal in landfills; and

(E) prevent contamination of natural resources by discarded single-use products.

(b) Definitions. As used in this section:

(1) “Carryout bag” means a bag provided by a store or food service establishment to a customer at the point of sale for the purpose of transporting groceries or retail goods.

(2) “Disposable plastic food service ware” means containers, plates, clamshells, serving trays, meat and vegetable trays, hot and cold beverage cups, cutlery, and other utensils that are made of plastic or plastic-coated paper, including products marketed as biodegradable products but a portion of the product is not compostable.

(3) “Expanded polystyrene food service product” means a product made of expanded polystyrene that is:

(A) used for selling or providing food or beverages to be used once for eating or drinking; or

(B) generally recognized by the public as an item to be discarded after one use.

(4) “Extended producer responsibility” means a requirement for a producer of a product to provide for and finance the collection, transportation, reuse, recycling, processing, and final management of the product.

(5) “Food service establishment” has the same meaning as in 18 V.S.A. § 4301.

(6) “Packaging” means materials that are used for the containment, protection, handling, delivery, and presentation of goods sold or delivered in Vermont.

(7) “Plastic” means a synthetic material made from linking monomers through a chemical reaction to create a polymer chain that can be molded or extruded at high heat into various solid forms that retain their defined shapes during their life cycle and after disposal.

(8) “Point of sale” means a check-out stand, cash register, or other point of departure from a store or food service establishment, including the location where remotely ordered food or products are delivered to a purchaser.

(9) “Printed materials” means material that is not packaging, but is printed with text or graphics as a medium for communicating information, including telephone books but not including other bound reference books, bound literary books, or bound textbooks.

(10) “Single use” means a product that is generally recognized by the public as an item to be discarded after one use.

(11) “Single-use products” means single-use carryout bags, single-use packaging, single-use disposable plastic food service ware, expanded polystyrene food service products, plastic film, printed materials, and other single-use plastics or single-use products that are provided to consumers by stores, food service establishments, or other retailers.

(12) “Store” means a grocery store, supermarket, convenience store, liquor store, pharmacy, drycleaner, drug store, or other retail establishment.

(13) “Unwanted” means when a person in possession of a product intends to abandon or discard the product.

(c) Membership. The Single-Use Products Working Group shall be composed of the following members:

- (1) a member of the Senate appointed by the Committee on Committees;
- (2) a member of the House of Representatives appointed by the Speaker of the House;
- (3) the Secretary of Natural Resources or designee;
- (4) a representative of a single-stream materials recovery facility located in Vermont appointed by the Governor;
- (5) two representatives from solid waste management entities in the State, one representing a rural district and one representing an urban district, appointed by the Committee on Committees;
- (6) one representative from the Vermont League of Cities and Towns appointed by the Speaker of the House;

(7) one representative of an association or group representing manufacturers or distributors of single-use products appointed by the Governor;

(8) one representative of an environmental advocacy group located in the State that advocates for the reduction of solid waste and the protection of the environment appointed by the Speaker of the House;

(9) one representative of stores in the State, appointed by the Committee on Committees; and

(10) one representative of food service establishments in the State, appointed by the Speaker of the House.

(d) Powers and duties. The Single-Use Products Working Group shall:

(1) Evaluate the success of existing State and municipal requirements for the management of unwanted single-use products, including a lifecycle analysis of the management of single-use products from production to ultimate disposition.

(2) Estimate the effects on landfill capacity of single-use products that can be recycled but are currently being disposed.

(3) Summarize the effects on the environment and natural resources of failure to manage single-use products appropriately, including the propensity to create litter and the effects on human health from toxic substances that originate in unwanted single-use products.

(4) Recommend methods or mechanisms to address the effects on landfill capacity of single-use products that can be recycled, but are currently being disposed, in order to improve the management of single-use products in the State, including whether the State should establish extended producer responsibility or similar requirements for manufacturers, distributors, or brand owners of single-use products.

(5) If extended producer responsibility or similar requirements for single-use products are recommended under subdivision (4) of this subsection, recommend:

(A) The single-use products to be included under the requirements.

(B) A financial incentive for manufacturers, distributors, or brand owners of single-use products to minimize the environmental impacts of the products in Vermont. The environmental impacts considered shall include review of the effect on climate change of the production, use, transport, and recovery of single-use products.

(C) How to structure a requirement for manufacturers, distributors, or brand owners to provide for or finance the collection, processing, and recycling of single-use products using existing infrastructure in the collection, processing, and recycling of products where feasible.

(6) Recommend methods or incentives for increasing the availability and affordability of reusable carryout bags for all citizens in Vermont.

(7) An estimate of the costs and benefits of any recommended method or mechanism for improving the management of single-use products in the State.

(e) Assistance. The Single-Use Products Working Group shall have the administrative, technical, financial, and legal assistance of the Agency of Natural Resources, the Department of Health, the Office of Legislative Council, and the Joint Fiscal Office.

(f) Report. On or before December 1, 2019, the Single-Use Products Working Group shall submit to the Senate Committee on Natural Resources and Energy and the House Committee on Natural Resources, Fish, and Wildlife the findings and recommendations required under subsection (d) of this section.

(g) Meetings.

(1) The Office of Legislative Council shall call the first meeting of the Single-Use Products Working Group to occur on or before July 1, 2019.

(2) The Committee shall select a chair from among its members at the first meeting.

(3) A majority of the membership shall constitute a quorum.

(4) The Working Group shall cease to exist on February 1, 2020.

(h) Compensation and reimbursement.

(1) For attendance at meetings during adjournment of the General Assembly, a legislative member of the Working Group serving in his or her capacity as a legislator shall be entitled to per diem compensation and reimbursement of expenses pursuant to 2 V.S.A. § 406 for not more than six meetings.

(2) Other members of the Working Group shall be entitled to per diem compensation and reimbursement of expenses as permitted under 32 V.S.A. § 1010 for not more than six meetings.

(3) Payments to members of the Working Group authorized under this subsection shall be made from monies appropriated to the General Assembly.

## **B. Members of the Single-Use Products Working Group**

A member of the Senate.....Senator Chris Bray

A member of the House of Representatives .....Representative Jim McCullough

The Secretary of Natural Resources or designee.....Cathy Jamieson, ANR Solid Waste Program

A representative of a single-stream materials recovery facility  
located in Vermont appointed by the Governor.....Kim Crosby, Casella Waste Systems

Two representatives from solid waste management entities in the State:

One representing a rural district.....John Leddy, Northwest Solid Waste District

One representing an urban district.....Jen Holliday, Chittenden Solid Waste District

One representative from the Vermont League of Cities and Towns.....Gwynn Zakov, VLCT

One representative of an association or group representing  
manufacturers or distributors of single-use products.....Andy Hackman, AMERIPEN

One representative of an environmental advocacy group located  
in the State that advocates for the reduction of solid waste and  
the protection of the environment .....Lauren Hierl, Vermont League of Conservation Voters

One representative of stores in the State .....Erin Sigrist, Vermont Retail & Grocers' Ass'n

One representative of food service establishments  
in the State .....Stephanie Bonin, Duo Restaurant

## C. Overview

During the 2019 legislative session, the Vermont General Assembly enacted Act No. 69, an act relating to the management of single-use products (Act 69). Act 69 enacted multiple requirements for single-use products provided by a store or a food establishment in the State, including conditions or prohibitions on the provision of single-use plastic carryout bags, single-use plastic straws, and expanded polystyrene food service products. The requirements of Act 69 are scheduled to go into effect on July 1, 2020.<sup>1</sup>

Prior to implementation of the Act 69 requirements for single-use products, legislators sought to review other actions the State could take to address single-use products. Sec. 3 of Act 69 established a Single-Use Products Working Group (Working Group) to evaluate current State and municipal requirements for management of unwanted single-use products. Act 69 further charged the Working Group to recommend to the General Assembly how to improve statewide management of single-use products, divert single-use products from landfills, and prevent contamination by discarded single-use products.

This report serves as the recommendation of the Working Group and the fulfillment of its statutory charge. The report first summarizes the meeting of the Working Group, including actions taken and testimony received. The report then summarizes the alternatives proposed by the Working Group for action by the General Assembly.

The report includes as reference in Attachment B the full table of alternatives proposed by the Working Group. Attachment A includes an Agency of Natural Resources report providing background information on waste management in the State. Also provided in Attachment C are the recommendations of individual Working Group members and in Attachment D a list of documents and testimony received by the Working Group.

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<sup>1</sup> See Attachment F of this report for the full Act 69 Act Summary.



**D. Summary of Single-Use Products Working Group Meetings**

The Working Group met six times between September and December of 2019. A summary of testimony received or action taken at each meeting follows.

1. September 10, 2019

The Single-Use Products Working Group held six total meetings. At the first meeting on September 10, 2019, Legislative Counsel reviewed the Working Group's charge. The Working Group then elected Senator Chris Bray as the Chair of the Working Group and Representative Jim McCullough as the Vice Chair. Cathy Jamieson, a member of the Working Group and the Solid Waste Program Manager at the Agency of Natural Resources, provided the Working Group with background information on solid waste management systems in Vermont.

Ms. Jamieson provided this language to address the first three charges to the Working Group—to evaluate the success of existing State and municipal requirements for the management of unwanted single-use products, to estimate the effects on landfill capacity of single-use products that can be recycled but are currently being disposed, and to summarize the effects on the environment and natural resources of failure to manage single-use products appropriately. The Background Information provided by Ms. Jamieson is attached as Attachment A of this report.

John Leddy, a member of the Working Group and the Executive Director of the Northwest Solid Waste District, testified next. Mr. Leddy provided an overview of the management of single-use products at the municipal level under current law and the existing solid waste system.

2. September 24, 2019

The Single-Use Products Working Group held its second meeting on September 24, 2019. The meeting focused on testimony and information related to the Working Group's fourth

and fifth charges—recommending methods or mechanisms to address the effects on landfill capacity of single-use products that can be recycled but are currently being disposed, including whether the State should establish extended producer responsibility (EPR) or similar requirements for manufacturers, distributors, or brand owners of single-use products; and if EPR or similar requirements for single-use products are recommended, how to implement the requirements.

Cathy Jamieson testified and provided information related to basic components of EPR programs and the various EPR programs Vermont has implemented to date. Her testimony was followed by Scott Cassell, the CEO and Founder of the Product Stewardship Institute. Mr. Cassell discussed EPR for packaging materials in other jurisdictions, including where EPR is implemented across the world, trends in EPR programs, and key elements of such programs. Jen Holliday, a member of the Working Group and the Director of Public Policy and Communications at the Chittenden Solid Waste District, discussed potential implementation of EPR programs for single-use products, including municipal options and impacts, goals of such programs, appropriate analysis of packaging alternatives and attributes, and requirements for success of EPR programs for single-use products.

Paul Burns, the Executive Director of VPIRG, testified next regarding the need to address plastic pollution by regulating “gateway” single-use plastics like carry-out bags. He also addressed the need to advocate for companies to reduce the use of unnecessary plastic packaging. Mr. Burns also proposed expanding Vermont’s bottle bill to include more containers and an increased deposit. He also proposed phasing out additional plastic products.

After Mr. Burns, Sarah Faye Pierce, the Director for Government Relations at the Association of Home Appliance Manufacturers, discussed the need for appliance manufacturers to use suitable packaging to protect goods in transport and storage. She discussed the most

common problems for appliance manufacturers, noting that packaging was needed to avoid the common causes of damage to the product, such as mismanagement in delivery. Ms. Pierce then discussed assessments of alternatives to existing appliance packaging and how the alternatives pose challenges in implementation or concerns with performance. She then discussed the problems with the current recycling policy for plastics, such as lack of markets for recycled plastic and lack of recycling infrastructure. Ms. Pierce then referenced concerns regarding implementing EPR for packaging materials, including how EPR would increase product costs.

William Driscoll, the Vice President of Associated Industries of Vermont, testified next regarding questions or considerations about implementation of an EPR program for packaging and other materials. Mr. Driscoll noted that EPR is a broad and varied policy approach. How effective it is and how appropriate it is can vary widely across products and industries, scale of jurisdictions, and actual program details. He then proposed questions and considerations that might help frame a discussion of whether or not EPR would make sense in addressing the Working Group's charge. Mr. Driscoll concluded that educating consumers about the importance of proper recycling and directly incentivizing consumers should be the most appropriate focus of the Working Group.

3. October 8, 2019

The Single-Use Products Working Group held its third meeting on October 8, 2019. The Working Group first heard testimony from Martin Wolfe, the Director of Product Sustainability and Authenticity at Seventh Generation. Mr. Wolfe testified that the current economic model of extraction, production, distribution, use, and disposal is not sustainable. He testified that the objectives of the Working Group can only be met if Vermont transitions away from an unsustainable linear economy to a sustainable one; to an economy without waste. Mr. Wolfe asserted that achieving a zero-waste economy in Vermont will require actions by State and local

governments, materials manufacturers, product manufacturers, retailers, restaurants, and citizens. He offered several recommendations that the Working Group could implement to meet its charge, including: create uniform policies and requirements, make recycling easy, create incentives to reutilize materials, maintain the value of recyclables, avoid toxic chemicals in materials that are reutilized, and make single-use products easy to sort at material recovery facilities.

After Mr. Wolfe, the Working Group heard testimony from Elena Bertocci, an Environmental Specialist at the Maine Department of Environmental Protection, and Paula Clark, the Solid Waste Manager of the Maine Department of Environmental Protection. Ms. Bertocci and Ms. Clark testified regarding Maine Resolution LD 1431, which directs the Maine Department of Environmental Conservation to develop legislation to create a product stewardship program for packaging. Ms. Bertocci and Ms. Clark described how LD 1431 requires the stewardship program to cover more than 80 percent of municipal costs of recycling. In addition, the resolution requires the program to establish differential costs to incentivize recyclability, lower toxicity, and use of recycled content in packaging. Ms. Bertocci and Ms. Clark also emphasized the need for the State of Maine to invest in education and recycling infrastructure. They then discussed the general programmatic scheme of the stewardship program based on whether packaging of a product is readily recyclable or not and whether the manufacturer collects the packaging for recycling or not.

The Working Group then heard from Dr. Pete Meyers from the consultant group Environmental Health Sciences and from Carnegie Mellon University. Dr. Meyers discussed the human health impacts of plastics. He described what makes plastic toxic, how human exposure to plastic is ubiquitous, and how such exposure may cause health effects. Dr. Meyers next discussed how most chemicals in use in the United States have not been tested and that core

assumptions are wrong about the safety of plastics used in packaging. He then asserted that chemical analyses are manipulated to hide problems with a chemical. Dr. Meyers concluded that there needs to be a redesign, reform, and recharge of packaging for consumer products.

The Working Group then conducted committee discussion. During discussion, Chair Bray asked that in the interim between the October 8 meeting and the October 22 meeting that Working Group members review potential actions that would satisfy the Working Group's charge. Chair Bray asked that each member send to the Working Group those potential actions that the member supports or recommends as further action by the State to address the management of single-use products.

4. October 22, 2019

At the October 22, 2019 meeting, the Working Group first heard testimony from Todd Bouton, the General Manager of Farrell Distributing Company. Mr. Bouton noted that beverage distributors in the State are open to discussing alternatives to the bottle bill for those products that are not already covered, such as wine bottles. However, Mr. Bouton noted that ANR has been hosting a series of bottle bill stakeholder meetings, and there is near unanimous agreement by the stakeholders that operate the bottle bill that there are serious problems with the bottle bill system, including the number of sorts retailers are required to perform, space constraints for some redemption centers, fraud in the system, and ensuring nontraditional entrants to the market comply with current regulations.

Mr. Bouton then specifically discussed certain identified issues with the proposed expansion of the bottle bill, including fraud, nontraditional entrants, costs of auditing and enforcement, and the possibility that potential changes could drive consumers to purchase products out of state. Mr. Bouton stated that Vermont must address the serious operational flaws of the existing bottle bill before making any changes such as expansion to new product types.

He concluded by providing three recommendations. First, he asked that the Working Group consider asking for legislation to require more manufacturers to commingle to ensure they are participating in the system and to reduce the number of sorts for retailers. Mr. Bouton then recommended that the State and stakeholders work to develop alternatives to the bottle bill that will address not just beverage containers but all products. Last, he recommended that the unclaimed beverage container deposits currently scheduled to be deposited into the Clean Water Fund should be redirected to fund buildup of Vermont's recycling infrastructure and address other needs in Vermont's solid waste system.

The Working Group next heard from Allen Langdon, the President and CEO of Encorp Pacific, the federally incorporated, not-for-profit, product stewardship corporation administering a product stewardship program for beverage containers and other packaging in British Columbia. Mr. Langdon discussed the EPR programs in British Columbia and recovery rates under the programs. He detailed how the EPR program is organized, including the stewardship organizations' obligations and the infrastructure and collection activities of the EPR program. Mr. Langdon then discussed the benefits of the British Columbia systems, including creation of a reverse-supply chain to manage material with opportunities for standardization and optimization, support of a circular economy, and the best long-term opportunity of producers to manage their packaging material in light of increasing costs, volatile commodity markets, and continued innovations in packaging types and materials. He also emphasized that under an effective EPR program, producers require control of the system in order to develop and optimize a reverse supply chain. Mr. Langdon concluded by asserting that the requirements for an effective EPR program are: outcomes-based legislation, strong governance for stewardship agencies, and effective oversight.

After Mr. Langdon, the Working Group heard testimony from Rachel Kaprielian, U.S. Government Relations for McDonald's. She discussed McDonald's vision to reduce packaging and waste. Ms. Kaprielian discussed McDonald's goals to significantly improve packaging and reduce waste. She stated that McDonald's goals are, by 2025: 1) to have 100 percent of guest packaging come from renewable, recyclable, or certified sources; and 2) to recycle guest packaging in 100 percent of McDonald's restaurants. Ms. Kaprielian then stated that McDonald's will support infrastructure and behavior change to develop recycling capacity. She also noted that industry, local government, and environmental associations working together can improve packaging and recycling practices.

Katie Reilly, the Senior Manager for Environmental and Sustainability Policy at the Consumer Technology Association, was next to testify to the Working Group. Ms. Reilly described how the technology industry, when considering packaging types and use, must find the right balance among four factors: product protection; availability and cost of material; customer preference; and sustainability. She emphasized that the technology industry is working together through several efforts to address product packaging. Ms. Reilly stressed that EPR, especially a patchwork state-by-state approach like for consumer electronics, is inefficient, puts pressure on local recycling, and drives up product costs. She concluded by referencing that a Connecticut EPR task force did not recommend EPR for consumer packaging due to concern that it would create a recycling monopoly, push Connecticut recycling firms out of business, and force higher costs on the collection and recycling system as a whole.

Following Ms. Reilly, Dylan De Thomas of the Recycling Partnership testified to the Working Group. He summarized the membership of the Recycling Partnership and its work to improve recycling at the local level. Mr. De Thomas described how the Recycling Partnership provides grants to municipalities for infrastructure, tools, data, expert assistance, and other

solutions. He described how funding grants and programs like the Recycling Partnership are driving change in the national recycling system, which she expanded on by discussing four example of success across the country. Mr. De Thomas concluded by emphasizing the need for strong program metrics to measure the success of recycling programs.

The Working Group next heard testimony from Chaz Miller from Chaz Miller Recycling Associates. Mr. Miller began his testimony by stating that he would address EPR goals, EPR myths, and design for the environment or design for recycling. He stated that EPR's goals are to provide: incentives to manufacturers to make changes that can result in less-toxic, easier-to-recycle products or packaging; convenient collection opportunities for used products or packaging that can result in increased recycling rates; and financial relief to municipalities and taxpayers for the costs of managing used products or packaging. However, he noted that the effort for less-toxic packaging has been longstanding, but there has been little redesign of products. Even with recent efforts of eco-modulated fees, there has been little change because in many cases the fees are greatly outweighed by economic and environmental benefits of some "nonrecyclable" packages. With regard to providing convenient collection opportunities, Mr. Miller raised questions regarding how EPR collection would affect small haulers, how EPR would ensure that existing materials recovery facilities cover their costs, and how to guarantee recyclables will be processed in Vermont, especially if regional EPR programs are implemented.

Mr. Miller then discussed some of the myths of EPR. He noted that industry may not work together, instead just pay a stewardship organization. Likewise, producers may not pay the full, real costs of a program but what a stewardship organization determines is a reasonable cost. And producers will not internalize the cost of EPR, instead passing it on to unknowing purchasers of products. Mr. Miller also noted that EPR may not be as environmentally beneficial as purported, especially when the life cycle analysis of different types of packaging is analyzed,



and he noted that certain nonrecyclable packaging may actually have less effect on the environment than fully recyclable packaging.

After Mr. Miller, Sarah Edwards and Sydnee Grushack of Eunomia Research & Consulting Inc. testified before the Committee. Ms. Edwards and Ms. Grushak noted how producers are becoming more involved in waste management as global brands try to “do the right thing” on plastics. These packaging manufacturers need high quality recycled material as inputs for recycled content in their products and will be looking for reliable and efficient reverse supply chains to provide it for them. In addition, with the global recycling markets changing, the prevalence of plastic pollution, and the growing acceptance of the realities of climate change, Ms. Edwards and Ms. Grushak asserted that it may be time to assess new methods of waste management, including the circular economy—a closed-loop system to eliminate waste and optimize resource use. They noted that there are many policy mechanisms for encouraging actions more in line with the circular economy, but they chose to focus on EPR.

Ms. Edwards and Ms. Grushak stated that one of the most effective mechanisms for involving brands in the end-of-life management of their products is EPR. EPR allows producers to take financial and often operational control for the management of the material they put on the market. Packaging manufacturers can create economies of scale across infrastructure, build a more efficient reverse supply chain and ensure that they control the quality of recycled materials in order to meet their recycled content goals. Under EPR, material risk transfers from municipalities to producers and there is cost coverage for the recycling system. Across the globe, EPR has become increasingly common. There are EPR systems for packaging and paper products across five Canadian provinces as well as in 26 of the 28 European Union member states. In Vermont, the bottle bill is old and is not as effective as laws in other jurisdictions. They asserted that there are two reasonable options for expansion to the bottle bill in Vermont

that will make a large impact. They first proposed expanding the scope to include all nonessential beverages (domestic nonsparkling water, energy drinks, sports drinks, fruit and vegetable drinks, ready-to-drink coffee and tea, and wine and cider). Their second proposal is to increase the deposit on a container to \$0.10. With that increase, they estimate an 85 percent return rate. Ms. Edwards and Ms. Grushak concluded by stating that EPR for packaging is a great solution that should be looked at by Vermont going forward as a way to increase the effectiveness and efficiency of its recycling system. But EPR strengthens its existing system, which is proven to increase recycling and decrease litter. Together, EPR and an expanded bottle bill will allow Vermont to have one of the most comprehensive and robust recycling systems in North America.

The Working Group was then scheduled to have committee discussion, but because of timing, Chair Bray asked that Working Group members be prepared for further discussion at the next meeting.

5. December 3, 2019

At the December 3, 2019 meeting, the Working Group first heard from Adam Peer, the Senior Director of Packaging at the American Chemistry Council. Mr. Peer discussed with the Working Group the steps the State of Vermont may consider to bolster recycling. He asked the Working Group to consider State policies that encourage investment in recycling technology and that encourage residential and commercial recycling, including steps to increase awareness and engagement, proper recycling practices, and recycled content demand. Mr. Peer then discussed industry efforts to reduce waste and conserve resources. He also discussed the importance of plastics to the State and national economies. He then referenced how internal shifts in the recycling market have created market disruption and the need to develop domestic demand for recyclables. Mr. Peer then stated that the American Chemistry Council plastics division had a

commitment to the circular economy, namely the reuse, recycling, or recovery of 100 percent of plastics packaging by 2040 and 100 percent of plastics packaging being recyclable or recoverable by 2030. He stated that the American Chemistry Council supports the pursuit of a more circular economy, one that prioritizes resource conservation and efficiency; design innovations that enable longer product lifespans; and reuse, recycling, and recovery technologies that allow capture of the greatest value from materials that have traditionally been discarded.

Mr. Peer then provided policy recommendations to help bolster Vermont's recycling system. Specifically, he recommended reframing recycled items as valuable feedstock that create jobs. This will allow commerce and economic development departments to develop markets for feedstock. He also recommended investing in recycling technology in the State. He asked the Working Group to consider adopting guidelines to encourage public and private procurement of sustainable products and products with recycled content. Mr. Peer also recommended continuing industry engagement and engagement with other parts of the value chain. He also supported uniform recycling guidelines in order to maximize communications, education, and economies of scale for recyclers.

The Working Group then took the testimony of Christopher Louras, the General Manager at Foley Distributing, located in Rutland, Vermont. Mr. Louras's testimony addressed three areas of interest to the working group. First, he provided an overview of the supply chain for single-use product items and food service items initiating with the manufacturer, through the distributor, and finally to the end user. Mr. Louras then discussed how changes within the industry and global marketplace currently impact that supply chain and, more specifically, how industry-related public policy affects product availability in the State of Vermont. Next, he discussed the potential impacts of EPR on food service product distributors. Mr. Louras concluded that the Working Group must recognize that any EPR program that necessitates

distributor administration will result in greater costs, such as labor costs, and will also likely result in lost benefits to distributors and customers, such as rebates.

After Mr. Louras, the Working Group heard from the Director of Government Affairs for the American Forest & Paper Association. Ms. Sztein stated that one of the American Forest and Paper Association's better practices and sustainability goals is to increase paper recovery for recycling to exceed 70 percent. She testified that the current recycling system is achieving a recovery rate for paper of 68.1 percent and that 96 percent of consumers have access to curbside or drop-off recycling. Consequently, Ms. Sztein argued that there is myth inherent in EPR proposals. Will EPR be an incentive to improve when there is already a 68.1 percent recovery rate, and is EPR needed to build out infrastructure when 96 percent currently have access to some infrastructure? In addition, she testified that EPR will lead to higher administrative costs that will be embedded in the costs of products and may not fully relieve municipalities and tax payers from costs. Ms. Sztein advocated for increasing education about paper recovery, reducing contamination, and optimizing the existing recycling infrastructure.

The Working Group then reviewed with Legislative Counsel the framework for their draft report. After agreeing to the general framework of the report, the Working Group began discussion of the recommendations, goals, and strategies of each member. Chair Bray asked each member of the Working Group to summarize or review their recommendations. As each member reviewed his or her recommendation, Mike Ferrant of Legislative Council summarized in a table the proposal, any pros and cons, and additional notes. As the meeting neared its scheduled end time, the Chair requested that those members of the Working Group who had not yet reviewed their proposals be prepared to complete review at the next meeting of the Working Group on December 10, 2019.

6. December 10, 2019

At the December 10, 2019 meeting, the Working Group members who had not previously reviewed their individual recommendations completed their review. The Working Group then reviewed the table of all of the proposed recommendations and added pros, cons, or notes and revised each recommendation for accuracy. The Working Group agreed that they would not vote on each recommendation, but instead provide all of the recommendations to the General Assembly as alternatives or actions proposed by the Working Group for consideration for legislative action. Those proposed alternatives or actions are discussed in the next subsection of the report. In addition, the complete copy of the specific recommendations made by each member of the Working Group can be found in Attachment C of this report.

**E. Single-Use Products Working Group Recommendations**

The alternatives or actions that the Working Group proposes for consideration by the General Assembly to address the statutory charge of Act 69 can be categorized under six separate themes—1) product bans; 2) product standards or goals; 3) eco-modulated fees; 4) EPR; 5) bottle bill; and 6) consumer-focused measures. The proposals under each theme are discussed below.

1. Product Bans

a. Ban Plastic Eating Utensils, Plates, and Bowls

The first proposed alternative under product bans is to ban the provision and use of plastic eating utensils, plates, and bowls by food service establishments or other entities. Alternative utensils would be compostable. The benefits of this proposal as identified by Working Group members would be that it reduces the number of single-use products, diverts single-use products from landfills, and consequently improves waste management. However, the

Working Group noted that there is no standard for natural decomposition of products, and there may be a lack of access to products in alternative packaging or to alternative packaging itself. In addition, Vermont lacks the infrastructure to manage compostable products. Consequently, banning plastic food service wares will only drive the use of compostable products in a State without the necessary infrastructure to address compostable products.

The Working Group also noted that if the General Assembly takes up this proposal, a definition of compostable must be discussed. The General Assembly also should conduct or require a life-cycle analysis to determine the true benefits of the ban. The General Assembly should discuss whether the ban should be imposed on nonrecyclable or noncompostable food service wares. And the General Assembly should discuss whether a ban should be targeted at certain settings, such as schools or restaurants.

b. Ban Toxic Additives in Food Packaging and Food Service Items

The Working Group also proposes that the General Assembly consider banning toxic additives in food packaging and food service items. Such a ban would reduce human exposure to toxic substances and prevent impacts to the environment from toxic substances.

Consequently, such a ban would provide a public health benefit, which could reduce costs to the State. The Working Group noted that the General Assembly would need to review and reconcile how such a ban would interface or affect other State laws regulating toxic chemicals in consumer products, including the Chemicals of High Concern to Children Program.

c. Ban Single-Use Personal Care Products; Public Funds for Packaged Water

The Working Group next proposes for consideration a ban on single-use personal care products, such as shampoo or soap, by hotels. The Working Group also proposes banning the use of public funds to purchase packaged water for State or local government. These bans would

reduce the volume of single-use products, divert products from disposal, and reduce environmental impacts. Reduction of these products in the waste stream would improve management of the solid waste management system, while also being measurable for the purposes of gauging effects of the bans. The Working Group noted that the General Assembly should consider whether public funds could be used for packaged water during emergencies or other exigent circumstances.

## 2. Product Standards or Goals

### a. Reduction in Waste of Single-Use Products by Certain Date

The Working Group proposes that the General Assembly consider setting a requirement or goal of reducing the number or amount of waste generated by single-use products in the State. Such a goal would reduce the volume of single-use products, divert products from landfills, reduce contamination of natural resources and other environmental impacts, and improve management of the waste system. The proposal would be goal oriented, measurable, and increase the clarity of a timeline for action. The Working Group noted that California has set a goal of 75 percent recovered recycled material by 2020.

### b. Increase the Mandate for Recycled Content

The Working Group proposes that the General Assembly consider a mandate or an increase on any existing mandate on the amount of recycled material in packaging or single-use products. Such a mandate would promote a circular economy, benefit the recycling system, and be measurable for purposes of determining effects. It also would provide an incentive to reduce disposal of products, thereby reducing environmental impacts. However, the Working Group noted that there may be a shortage or scarcity of material for use in recycled content, and a recycled content mandate might exacerbate such a shortage and consequently adversely alter the

market for the material. The Working Group also noted that the General Assembly should consider how this proposal will reduce the use of virgin materials. The General Assembly also should consider that the U.S. Food and Drug Administration has strict limits on the use of recycled material in food contact articles, such as containers for carrying food or flatware.

c.       Recyclability, Reusability, Compostability, Reduction Goals

The Working Group proposes that the General Assembly consider mandating that single-use packaging be recyclable, reusable, or compostable and that this mandate be coupled with a goal of reducing nonrecyclable, nonreusable, or noncompostable materials in packaging. The Working Group discussed how this type of standard could provide regulatory clarity while also providing a flexible means for achieving the goal. However, the Working Group notes that the proposal does not address the cost of the recycling program in Vermont, will not necessarily reduce the volume of waste, and does not account for environmental impacts. The Working Group refers the General Assembly to two California bills addressing a similar subject but also asks that the General Assembly discuss whether this amounts to voluntary EPR for manufacturers and whether there is a viable definition of “recyclable.”

3.       Eco-modulated fees

The Working Group proposes that the General Assembly consider eco-modulated fees on all printed materials or packaging. Under eco-modulated fee systems, producers of products deemed environmentally unfriendly or harmful pay an additional or higher fee than the producer of a product deemed more environmentally friendly. The hope is that additional or higher fees serve as incentive for producers to replace environmentally unfriendly materials with less harmful alternatives. In the scheme of single-use products, a fee could be assessed on printed materials or packaging depending on the type of material in the product or the product itself.



The Working Group discussed how eco-modulated fees would provide funding for the recycling system, but the group questioned how the fee would be implemented and appropriated. In addition, the Working Group notes that manufacturer would likely pass the cost of the fees on products onto the consumer. The Working Group also notes that the General Assembly should consider whether eco-modulated fees are an alternative to EPR.

4. EPR

a. Discontinue/Integrate Bottle Bill; EPR for Printed Materials; Packaging

The Working Group proposes that the General Assembly consider discontinuing the bottle bill and replacing it with EPR for printed material and packaging or alternatively integrating EPR and the bottle bill. Either proposal could shift costs from the recycling system. And, because the proposal provides incentives for more items to be recycled, it would likely support or enhance the market for recycled materials.. The Working Group notes that shifting to EPR for beverage containers would put redemption centers in the State out of business. The Working Group asks the General Assembly to consider that there is no successful EPR model for printed material and packaging in the United States. Additionally, the impact on consumer prices should be assessed.

b. EPR for Glass; Container Fee

The Working Group proposes that the General Assembly review whether to establish an EPR program for glass or, as an alternative, impose an eco-modulated fee on glass. EPR for glass would produce a higher quality glass material for the recycling market. And a fee on glass containers would provide a revenue stream to support mixed glass recycling. The Working

Group notes that this proposal might lead to the elimination of the bottle bill. The Group asks the General Assembly to note that this proposal could promote more mixed-stream recycling.

c. EPR for Hard-to-Recycle Plastics

The Working Group proposes that the General Assembly consider enactment of an EPR program for hard-to-recycle plastic, such as plastics numbered 3, 6, or 7. These plastics cannot be recycled with other plastics, and the State may lack the infrastructure to recycle plastics of this type. As a result, these hard-to-recycle plastics are likely disposed of in landfills. Consequently, an EPR program would reduce the costs to material recovery facilities in managing the hard-to-recycle products and would reduce the amount of waste disposed of in landfills. However, such an EPR requirement would increase the costs to manufacturers and would likely increase the costs of products. There also would be a loss of municipal control over part of the solid waste systems. The Working Group notes that the General Assembly should consider that any stewardship plan for an EPR program would need to be approved by the State, and thus, the State would still retain some control over management of these products in the waste management system.

d. EPR Program for Single-Use Products, Printed Materials with Eco-Fees

The Working Group also asks the General Assembly to consider establishing an EPR program for single-use products and printed materials that incorporates eco-modulated fees that encourage low-carbon footprint, recycled content, nontoxic inputs, and recyclable materials. This proposal would divert material from landfills while providing an incentive to reduce difficult to manage material in products, thereby leading to reduced environmental impacts, public health benefits, and reduced contamination. It is also goal oriented, measurable, provides revenue for the recycling system, and improves management of the waste systems. However, it

would be complex to implement and difficult to collect product information, thereby complicating the establishment and collection of the fees. The Working Group notes that the General Assembly should be aware that the factors or criteria for modulated fees may conflict. In addition, the General Assembly should review the impact of the proposal on consumer prices and access to products.

## 5. Bottle Bill

### a. Expand Bottle Bill to Cover Additional Beverages

The Working Group proposes that the General Assembly consider expanding the scope of the bottle bill to include beverages currently not subject to the redemption requirements, including water and wine. The Group also requests that the General Assembly consider increasing the deposit on covered beverage containers to \$0.10 per container. In addition, the Working Group learned of several inefficiencies in the bottle redemption system, including the number of sorts for containers not comingled, fraudulent redemption of containers purchased out of state, and how the system works for restaurants. The Working Group requests that the General Assembly address these inefficiencies.

The expansion of the bottle bill would divert additional containers from disposal and create a higher quality of recycled material. Diversion would reduce environmental impacts and contamination of natural resources. However, the proposal could increase the cost of the recycling system (blue bin). The Working Group requests that the General Assembly review whether to increase the requirements for comingling of redeemed containers.

### b. Reduce the Volume of Waste Glass by Diversion to Waste Markets

The Working Group requests that the General Assembly consider means to enhance the solid waste system's ability to reduce the volume of waste glass that is either down-cycled or

landfilled because of contamination levels and lack of sorting. As examples, options include the facilitation of both growing the volume of cleaner, sorted glass usable for higher value re-use, and growing the markets for such materials in the manufacturing of new bottles or insulation.

c. Increase the Deposit on beverage Containers to \$0.15; Inefficiencies

The Working Group requests that the General Assembly consider increasing the deposit on beverage containers under the bottle bill to \$0.15 per container. In addition, the inefficiencies in the redemption system discussed under subdivision a of this section 5 also would need to be reviewed. This proposal would increase the number of containers redeemed and mitigate or eliminate the inefficiencies in the system.

6. Consumer-Focused Measures

a. Avoid Increases in Consumer Prices and Maintain Access to Products

The Working Group requests that with any proposal reviewed to address single-use products that the General Assembly attempt to avoid increases in consumer prices and likewise, maintain access to consumer products. There are concerns that additional requirements, such as eco-modulated fees or EPR, will result in additional costs to producers that will be passed to the consumer or lead to removal of a product from the Vermont market. Consideration of these issues may reduce incentives for Vermonters to shop out of state. The Working Group does note that the complexity of the supply chain and tracking of products should be considered in review of this proposal.

b. Increase Consumer Education, Motivation to Recycle

The Working Group proposes that the General Assembly consider whether increased consumer education or other methods to enhance motivation to recycle may be beneficial.

Successful implementation would lead to increased recycling and diversion of material from landfills. The Working Group notes that all stakeholders should participate in consumer education efforts, including manufacturers, retailers, the waste industry, and the State.

c. Stakeholder Task Force for Ongoing Review of System

The Working Group asks the General Assembly to review whether to establish a stakeholder task force to conduct ongoing review of the waste and recycling systems. Recycling is a complex and evolving system, and the State needs to stay up-to-date on all aspects of the system. A stakeholder group could provide guidance to the General Assembly and the State as a whole on how the system is operating and enhancements that may be advisable.

d. Consumer Education on Contamination

The Working Group proposes that the General Assembly consider requiring additional consumer education on contamination of recyclable materials. Contamination of recyclable materials can be problematic for material recovery facilities and other recycling infrastructure, thereby decreasing the efficiency of the system. Consumer education could decrease “wish cycling” and other contamination and improve recycled material streams. The Working Group notes that the General Assembly should consider an education collaboration between manufacturers, the State, municipalities, and solid waste management entities. The Group also recommends the General Assembly review the Washington State programs on “how to recycle.”

e. Active Enforcement of State Solid Waste Laws

The Working Group asks the General Assembly to consider whether improved or more active enforcement of the State’s solid waste laws will provide benefits to the State’s recycling and waste systems. Enforcement could lead to reduced litter and less environmental

contamination. However, increased enforcement would only impact the amount of material in the recycling systems by a small percentage. And enforcement puts the burden on consumers and enforcement entities who have little control over the content or composition of a product. The Working Group notes that the State currently achieves a 72 percent recycling rate.

## **F. Conclusion**

The Working Group took significant testimony regarding the the management of single-use products in the State. It was clear from this testimony and other information provided that the single-use products have multiple and substantial influences on the solid waste management system in the State with various negative effects on consumers, retailers, recyclers, solid waste haulers, solid waste management entities, and the natural resources and environment of Vermont. As collected in this document, there are multiple options the State could pursue to eliminate or mitigate the negative effects of single-use products on the solid waste management system in the State. This report provides the General Assembly with a list of options that should be considered or pursued in an effort to reduce the use of single-use products, improve the management of single-use products, divert single-use products from landfills, and reduce the impact of single-use products on natural resources and the environment.

**Attachment A: Background Information for the 2019 Vermont Single-Use Products  
Working Group Produced By: Vermont Agency of Natural Resources, Department  
of Environmental Conservation, Solid Waste Program, September 10, 2019**

DRAFT

# BACKGROUND INFORMATION FOR THE 2019 VERMONT SINGLE-USE PRODUCTS WORKING GROUP

PRODUCED BY:  
VERMONT AGENCY OF NATURAL RESOURCES,  
DEPARTMENT OF ENVIRONMENTAL CONSERVATION,  
SOLID WASTE PROGRAM

SEPTEMBER 10, 2019

*This summary provides background information for the Single-Use Products Working Group's duties 1, 2, and 3 (as required by Act 69). It **does not** include all the existing information on these topics.*



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## BACKGROUND

**Act 69 (S.113 of 2019) requires the Single-Use Products Working Group to do the following:**

**(1) Current System:** Evaluate the success of existing State and municipal requirements for the management of unwanted single-use products, including a lifecycle analysis of the management of single-use products from production to ultimate disposition.

**(2) Landfill Capacity:** Estimate the effects on landfill capacity of single-use products that can be recycled but are currently being disposed.

**(3) Environmental Impacts:** Summarize the effects on the environment and natural resources of failure to manage single-use products appropriately, including the propensity to create litter and the effects on human health from toxic substances that originate in unwanted single-use products.

**(4) Methods for Improvements:** Recommend methods or mechanisms to address the effects on landfill capacity of single-use products that can be recycled, but are currently being disposed, in order to improve the management of single-use products in the State, including whether the State should establish extended producer responsibility or similar requirements for manufacturers, distributors, or brand owners of single-use products.

**(5) EPR:** If extended producer responsibility or similar requirements for single-use products are recommended under subdivision (4) of this subsection, recommend:

(A) The single-use products to be included under the requirements.

(B) A financial incentive for manufacturers, distributors, or brand owners of single-use products to minimize the environmental impacts of the products in Vermont. The environmental impacts considered shall include review of the effect on climate change of the production, use, transport, and recovery of single-use products.

(C) How to structure a requirement for manufacturers, distributors, or brand owners to provide for or finance the collection, processing, and recycling of single-use products using existing infrastructure in the collection, processing, and recycling of products where feasible.

**(6) Affordability of Reusable Bags:** Recommend methods or incentives for increasing the availability and affordability of reusable carryout bags for all citizens in Vermont.

**(7) Cost-Benefits of Any Recommendation:** An estimate of the costs and benefits of any recommended method or mechanism for improving the management of single-use products in the State.

# 1. CURRENT SINGLE-USE SYSTEM

*“(1) Evaluate the success of existing State and municipal requirements for the management of unwanted single-use products, including a lifecycle analysis of the management of single-use products from production to ultimate disposition.”*

## A. STATE REQUIREMENTS

### I. Vermont’s Universal Recycling Law Summary:

- a. Everyone in Vermont must recycle:
  - i. Paper, Boxboard, and Cardboard: uncoated, clean, and dry
  - ii. Containers: from food and drinks including Metal cans, foil, and pie tins, Glass bottles and jars, Plastic bottles and containers labeled #1 and #2
- b. Trash haulers and drop-off centers must offer recycling collection.
- c. Haulers must charge residents a single, bundled fee for trash and recycling.
- d. Residential trash charges must be based on volume or weight.
- e. Public entities must pair each of their trash bins with a recycling bin (except restrooms).

## B. MUNICIPAL REQUIREMENTS

- I. Brattleboro: The town’s ordinance, which went into effect July 1, 2018, prohibits the distribution of plastic bags that do not meet their definition of *reusable*. [1]

### II. Chittenden County:

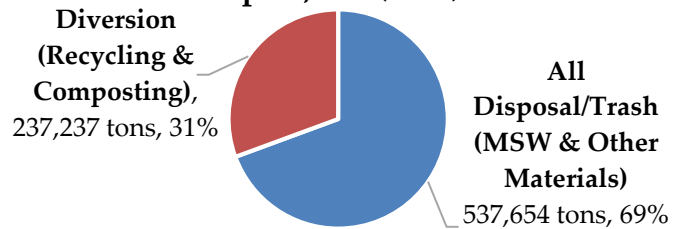
- a. Every public-facing trash can must be paired with a recycling bin (except restrooms).
- b. Landlords, property managers, and condo/homeowner associations must inform residents about waste management requirements annually. Landlords that provide trash collection for tenants must provide recycling collection at least once a month.
- c. Event and venue managers that register vendors or participants must explain CSWD’s recycling requirements as part of the registration and require compliance with the requirements as a condition of the reservation or permit.
- d. Commercial haulers must provide recycling collection at least monthly to all trash customers and provide recycling collection to all short-term trash customers (specific exemptions available). Commercial haulers must provide recycling instructions to new customers and at least annually. The recycling bins they provide must be colored and labeled according to the ordinance requirements. [2]

- III. District Recycling Ordinances: Several solid waste districts had mandatory recycling requirements for years before the Vermont Universal Recycling Law passed and was implemented.

## C. VERMONT'S WASTE & RECYCLING SYSTEM

- I. **Generation:** Vermonters generate a host of waste materials every year, including trash, construction and demolition debris, recyclables, food waste, sludge, and more. In 2018, Vermont generated ~775,000 tons of solid waste from residents, businesses, and institutions (see Fig. 1). [3]

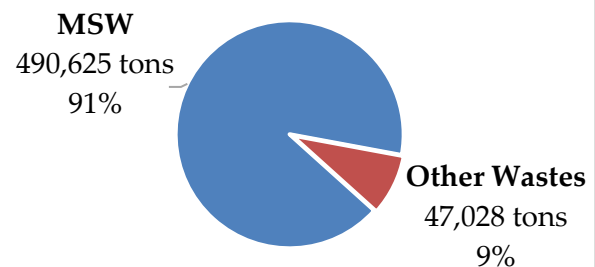
**Fig. 1. Vermont Generated Solid Waste Materials - trash, recycling, compost, etc. (2018)**



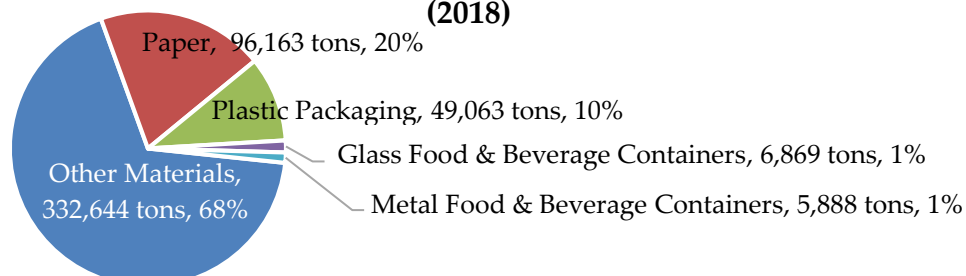
### II. What's in Our Trash?

- a. The majority of Vermont's disposed waste is Municipal Solid Waste (MSW), which is trash from residences, businesses, and institutions (Fig. 2).
- b. "Other wastes" includes contaminated soils, sludge, construction and demolition waste (C&D), and more. [3]
- c. Every five years, DEC contracts a Waste Characterization Study to find out what's in Vermont's trash (MSW) by percentages.
- d. From this study, DEC estimates:
  - Single-use items, paper, and packaging make up an estimated 32% of Vermont MSW (see Fig. 3. below).
  - Single-use items that **can be recycled via single or dual stream collection (if clean) but are currently disposed** make up an estimated 14% of Vermont's MSW.
- e. The study authors, DSM Environmental, estimate that plastics disposal has increased in Vermont and elsewhere and that if they studied the volume of trash, rather than the weight, plastic would be the most prevalent material. They also noted a "decrease in the weight of paper recyclables" in the trash, dropping from 17% of the trash in 2002 to 9% in 2017. [4]

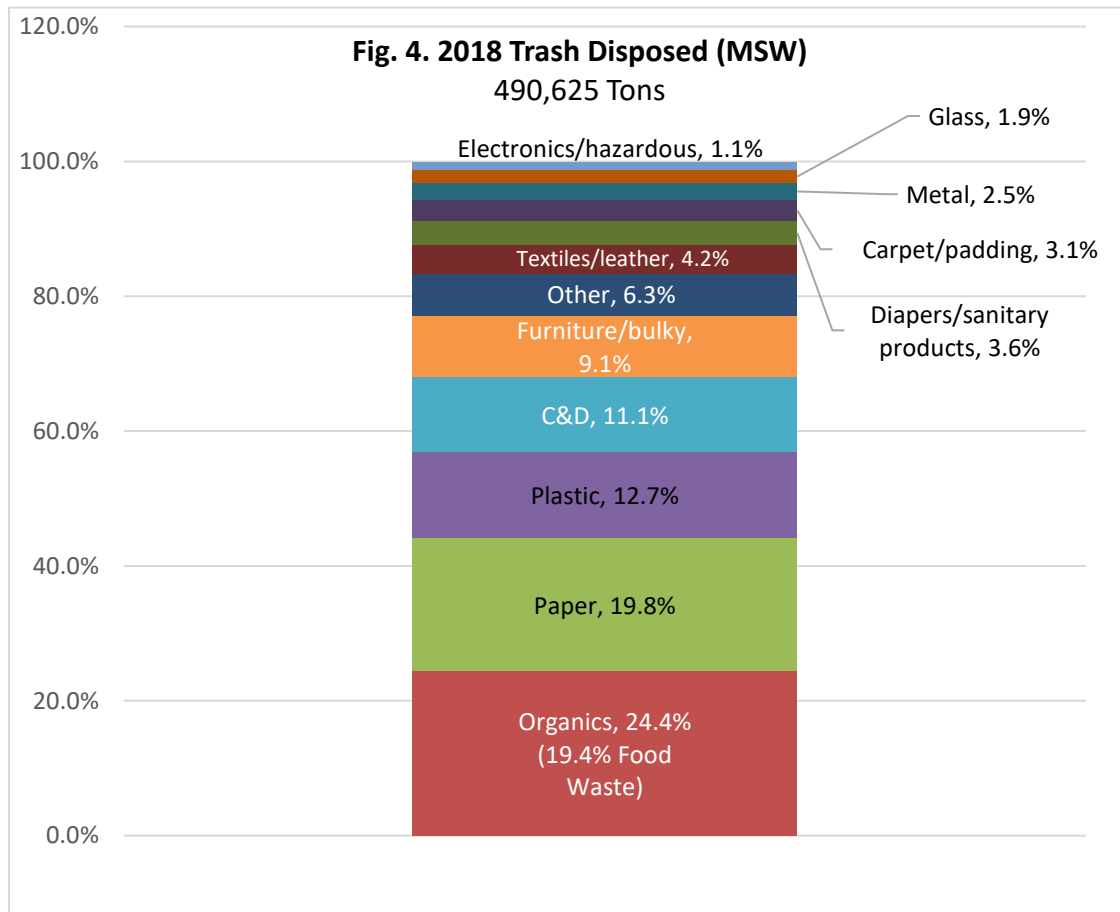
**Fig. 2. Vermont Generated Waste - All Disposal/Trash (landfilled or incinerated) (2018)**



**Fig. 3. Single-Use Products, Packaging, and Paper in Vermont MSW Disposed (2018)**



### III. Vermont 2018 Residential and Commercial Trash: [4] [5]

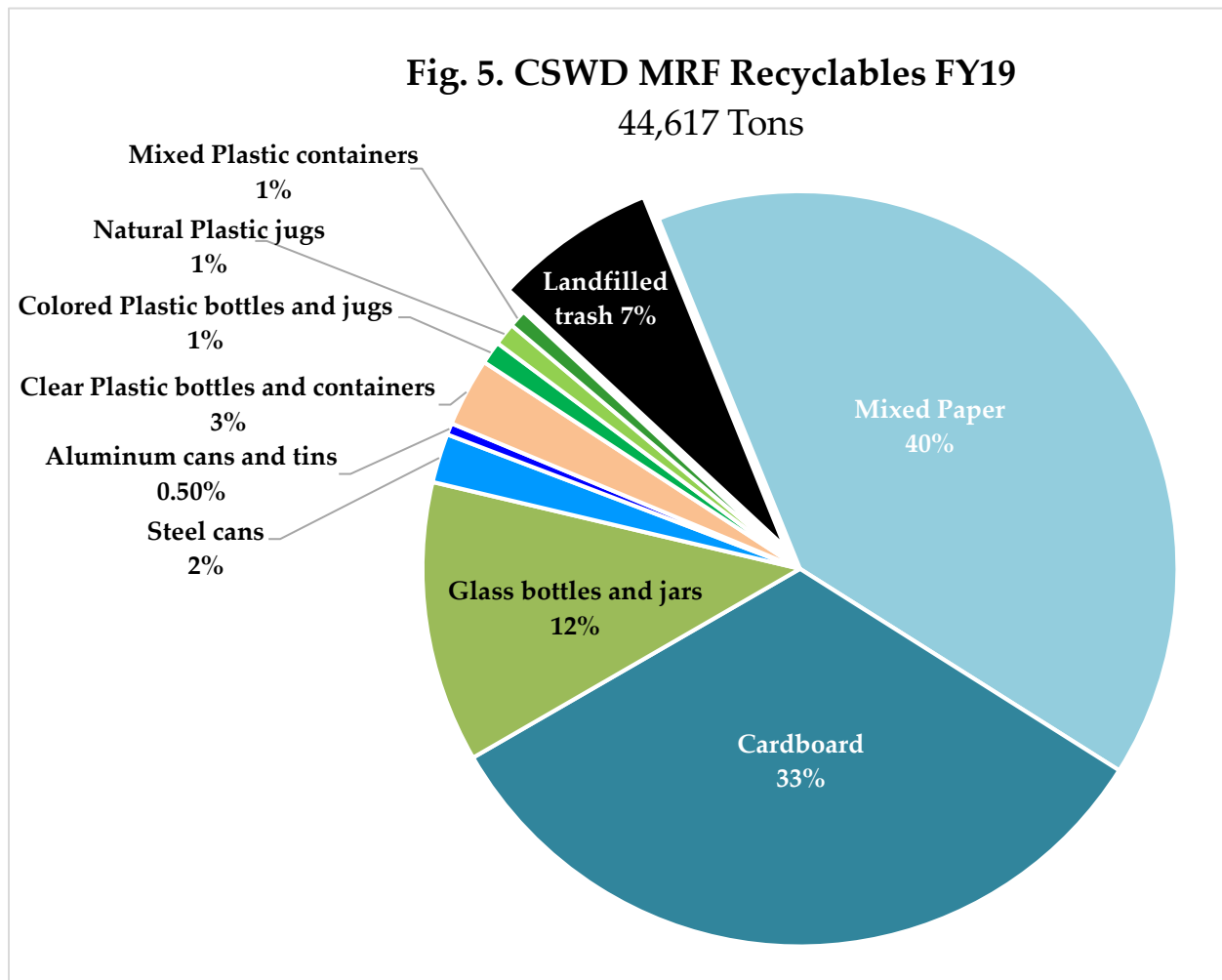


\*C&D refers to Construction and Demolition Debris

Category of Material	Percent of Waste Stream	Tons Trash (MSW) Disposed 2018
Organics	24.4%	119,713
Paper	19.8%	97,144
Plastic	12.7%	62,309
C&D*	11.1%	54,459
Furniture/bulky	9.1%	44,647
Other	6.3%	30,909
Textiles/leather	4.2%	20,606
Diapers/sanitary products	3.6%	17,663
Carpet/padding	3.1%	15,209
Metal	2.5%	12,266
Glass	1.9%	9,322
Electronics/hazardous	1.1%	5,397
<b>TOTAL:</b>	<b>100.0%</b>	<b>490,625</b>

#### IV. What's in Our Recycling?

Fig. 5. below shows the 2019 fiscal year recyclables data from the Chittenden Solid Waste District's (CSWD's) Materials Recovery Facility (MRF) in Williston, Vermont.



[6]

#### V. What About Compostable Single-Use Products (SUPs)?

Most Vermont composting facilities do not accept certified compostable packaging, utensils, or bags. Some of the largest municipal composting facilities, including Green Mountain Compost (CSWD) and Windham Solid Waste District's composting facility, do accept certain kinds of compostable single-use items [7] [8]. The compost facilities that do accept these products must navigate their complexity, such as: false claims of compostability or biodegradability, consumer confusion over claims and colors, emerging contaminants (e.g. PFAS—see page 15), paper coatings, and more.

## D. Successes

- I. **Vermonters Recycle:** In 2017, Vermont recycled an estimated 141,000 tons of blue bin recyclables. This is slightly more tons than 2016, even though packaging continued to get lighter. [3] People in Vermont recycle an estimated 72% of mandated recyclables (recyclable paper, cardboard and containers). [4]
- II. **The Universal Recycling Law is working** to:
  - a. Increase food scrap composting: In 2017, Vermont composting facilities collected more food scraps than ever before, a 9% increase from 2016.
  - b. Increase recycling of blue bin recyclables (see I. above)
  - c. Increase recycling and composting convenience throughout Vermont. More hauling and drop-off collection services exist because of the law.
  - d. Food rescue donations to the Vermont Foodbank almost tripled from 2014-2017.
- III. **Recycling Saves Energy and Reduces Greenhouse Gases (GHGs).** On average:
  - a. Recycling one ton of **aluminum** cans saves 152.76 million BTUs of energy or 9.11 MTCO<sub>2</sub>E GHG emissions.
  - b. Recycling one ton of **plastic bottles** (PET) saves 31.87 million BTUs energy or 1.12 MTCO<sub>2</sub>E GHG emissions.
  - c. Recycling one ton of **mixed paper** saves 22.81 million BTUs of energy or 3.98 MTCO<sub>2</sub>E GHG emissions.
  - d. Recycling one ton of **steel** cans saves 19.97 million BTUs of energy or 1.81 MTCO<sub>2</sub>E GHG emissions.
  - e. Recycling one ton of **cardboard** saves 9.97 million BTUs energy or 3.12 MTCO<sub>2</sub>E GHG emissions.
  - f. Recycling one ton of **glass bottles & jars** saves 2.39 million BTUs of energy or 0.30 MTCO<sub>2</sub>E GHG emissions. [9]

## E. CHALLENGES

- I. **Vermont Continues to Produce Lots of Trash, Recyclables, and Compost:** While Vermont's Universal Recycling Law has increased recycling and composting, Vermont continues to generate ~600,000 tons of unwanted materials (MSW) and recycle/compost about 35% of it each year (in last five years). The remaining ~65% was disposed in the trash.

In 2017, trash disposal increased 11% following a two-year decrease of 9%. [3] In 2018, disposal increased another 4.5%. Since diversion increased as well **in 2018, Vermont generated more MSW in 2018 than any other year in the last decade.** Vermont currently has a goal to recycle, compost, and reuse 50% of all materials by 2020. [5] Not all disposed materials can be diverted from the landfill with current technologies and priorities.

**II. Managing Vermont's Materials is Costly:** Vermonters, municipalities, businesses, and haulers pay the costs to dispose and recycle single-use products, paper, and packaging.

- a. **Trash Costs:** Trash costs vary widely depending on market competition, distance to the landfill or incinerator, the type of customer (resident, business, hauler), and whether someone hauls it themselves or uses a curbside hauler. Anecdotally, landfill/incinerator tipping fees for trash are generally between \$70-115 per ton in 2019. [10] Tipping fees refer to the cost haulers pay when they “tip” their waste at the landfill or incinerator.
- b. **Recycling Costs:** With the downturn in recycling markets and recycling costs have increased making it more expensive. Anecdotally, recycling costs are now approaching or may be exceeding the cost of trash disposal in some parts of Vermont, with tipping fees at the two large single-stream Material Recovery Facilities (MRFs) at approximately \$65/ton (Williston/CSWD MRF) and approximately \$90/ton (Rutland MRF). Town transfer stations report costs to haul recyclables ranging from \$76-308 per ton in 2019. [10] Other examples of recycling costs include:
  - i. Danby Transfer Station, April 2019: Trash cost \$145.91 per ton. Recycling cost \$175.40 per ton. [11]
  - ii. Rutland MRF tip fee set at \$88.95/ton as of April 2019. Disposal fee set at \$89.27/ton. [11]
  - iii. CSWD's MRF tip fee reached all time high of \$65/ton on July 1, 2019. [12]

**III. Single-Use Product Challenges:** Reducing or avoiding the use of SUPs and increasing recycling or composting of SUPs that are unavoidable can be challenging. Addressing litter, when SUPs are not properly disposed or recycled, also presents challenges.

- a. **Avoiding SUPs is Challenging:** Even when consumers try to avoid packaging or excessive packaging, it can be challenging to find alternatives. Sometimes the low-waste alternatives, like buying in bulk, can cost more.
- b. **Knowing How to Recycle is Challenging:** People struggle to sort their packaging correctly—especially as new materials enter the marketplace. Packaging is often labelled with confusing or locally incorrect recycling instructions. To address this issue, some brands have adopted [How2Recycle labels](#), which provide more information, including whether consumers need to ask their local recycling program if they accept the material in question. [13]
- c. **Recycling Glass is Challenging:** Single use glass containers are especially challenging to recycle in Single-Stream Material Recovery Facilities (MRFs) where they have low value and can contaminate other recyclables when comingled in single stream recycling systems.
- d. **Litter is Still a Problem:** Litter continues to be a problem in Vermont, nationally, and globally. This includes large items and microplastics. [14] [15]



## F. LIFE CYCLE ANALYSES/ASSESSMENTS

Life cycle assessments (LCAs) study and explain a material's impact from creation to end-of-life, including:

- Material extraction/production
- Manufacturing
- Transportation (of materials and finished product)
- Consumer use (number of times used before disposal)
- End-of-life (landfilling, recycling, composting, etc.)

LCAs can be a useful tool for considering environmental impacts but typically only focus on certain impacts and exclude others.

Some LCAs are funded by business interests that could benefit from certain results [16].

**Life cycle assessments may consider (not all categories addressed by every study):**

- Greenhouse gasses (climate)
- Water consumption
- Energy consumption
- Fossil fuel consumption
- Soil pollution
- Freshwater/marine eutrophication
- Toxicity (to humans/ecosystems)
- Acid Rain
- Ozone formation
- Impact on solid waste stream

**They typically do not consider:**

- Consequences of mismanagement, such as:
  - Litter and its impacts on: [17]
    - The economy (e.g. costs to clean up, public health costs, impacts on fishing, tourism, etc.) [38]
    - The environment: water, land, etc.
    - Public Health
    - Other species (e.g. harming wildlife)
- Other priorities, such as:
  - Reducing reliance on landfills & incinerators
  - Building a circular economy

[Anne Johnson](#), from Resource Recycling Systems, a consulting firm focused on resource recovery, and [Greg Norris](#), from the Harvard School of Public Health and International Living Future Institute, [wrote in 2018](#) that “While LCA is an effective tool for comparative analysis of products and packaging across common measures, to omit the impacts of mismanaged plastics is an important blind spot that needs urgently to be addressed. In the meantime, it is clear that LCAs today are not providing the whole picture.... [LCAs] are only as good as the data that underlies the analysis and the categories of impact evaluated... The data missing from most LCA-based conclusions about product life cycles include such realities as poorly designed landfills, open dumping, low-tech incineration, open burning, storm events, accidents and spills, and just plain litter.” [17]

The number of times an item is reused majorly impacts the per-use life cycle impact of reusable products.

[Oregon DEQ's research](#) on how different characteristics (e.g. recyclable, compostable) relate to packaging's life cycle impacts found that:

- Items made with recycled content typically have lower environmental impacts than a version of that item made without recycled content.
- Recycled content is not a good predictor of lower impacts when comparing items made of different materials, such as glass vs. PET plastic.
- “Biobased” is an unreliable characteristic for assessing life cycle impact largely because growing, harvesting, transporting, and processing the feedstocks tend to have substantial impacts. For example, some biobased packaging may produce fewer GHG emissions but more acid rain, eutrophication, and toxicity impacts.
- “Recyclable” does not consistently align with lower life cycle impacts because different material types have such different impacts and the characteristic of “recyclable” does not consider material type.
- Being compostable does not appear to predict lower life cycle impacts, partly because compostable products are generally biobased and thus include the impacts of growing, harvesting, transporting, and processing the feedstocks. [18]

## 2. LANDFILL CAPACITY

“Estimate the effects on landfill capacity of single-use products that can be recycled but are currently being disposed.”

### A. COVENTRY LANDFILL

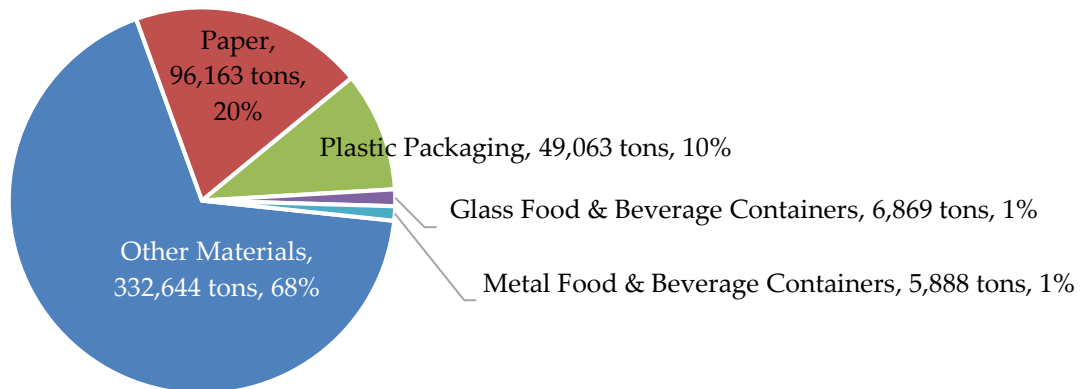
The Coventry landfill’s current footprint is 71 acres and the expansion would add an additional 51 acres. The landfill is currently permitted to dispose of 600,000 tons a year. It currently disposes ~500,000 a year. If it continues to fill at this rate, the expanded landfill would be expected to reach capacity in 2042.

### B. EFFECTS OF SINGLE-USE PRODUCTS

**Single-use items make up an estimated 32% of Vermont MSW disposed** (see Fig. 3), according to the 2018 Vermont Waste Characterization Study. In 2018, this amounted to **over 155,000 tons** of material. With our current recycling and composting system, not all these materials can be recycled/composted.

Single-use items that **can be recycled via single or dual stream collection (if clean) but are currently disposed** make up an estimated **14%** of Vermont’s MSW. In 2018, this amounted to **almost 66,000 tons** of waste.

**Fig. 3. Single-Use Products, Packaging, and Paper in Vermont MSW Disposed (2018)**



### 3. ENVIRONMENTAL IMPACTS

*“Summarize the effects*

*on the environment and natural resources of **failure to manage single-use products appropriately**, including the propensity to create **litter** and the **effects on human health from toxic substances** that originate in unwanted single-use products.”*

*DISCLAIMER: This summary provides background information for the Single-Use Products Working Group’s duties 1, 2, and 3 (as required by Act 69). It **does not** include all the existing information on these topics.*

#### A. THE EXTENT OF LITTER

Biodegradable litter, like uncoated paper or cardboard, can impact aesthetics until it decomposes. All plastic litter, both large and small, can cause damage. Plastic litter pollutes the land, air, and water, where it breaks into smaller and smaller pieces known as microplastics. Some sources of litter, such as laundering synthetic clothing, release microplastics but not larger pieces of plastic. A growing body of research has found microplastic pollution throughout the planet, and even in the most remote locations, including [rain](#) and [groundwater](#) in the US, [snow in France](#), [arctic sea ice](#) and [deep-sea sediments](#), [the deepest ocean trench on earth](#), and elsewhere. [19] [20] [21] [22] [23] [24]

Locally, Green Up Day Vermont collects 200 to 300 tons of litter each year. [14]

Nationally, scientists [estimated](#) that almost 300,000 metric tons of plastic debris entered the ocean from the United States in 2010. [25]

Globally:

- Humans produce ~300 million tons of plastic waste (recycled, disposed, or discarded) each year. Some estimate that half this waste is single-use products. [26] [27]
- BBC (British Broadcasting Corporation) estimated that if these 300 million tons of plastic were compressed into bales, loaded the bales into shipping containers until full, and lined up the containers end-to-end, they would encircle the planet almost ten times. [28]
- Plastic items like bags, bottles, and cutlery can take centuries or even 1,000 years to decompose. If not managed properly these items or the plastic might end up in the environment. [29]
- Scientists [estimated](#) that 5-13 million metric tons of plastic entered the ocean in 2010. Without waste management improvements, that number is expected to increase by an order of magnitude by 2025. [25]

#### B. PLASTIC HARMS WILDLIFE

- I. **Physically:** Plastic litter injures and kills wild animals when they eat it, get stuck in it, or the item wounds them. Hundreds of species are harmed by plastics, even

animals that live in deep-sea ocean trenches. [30] [24] As part of *National Geographic*'s "Plastic or Planet" series, Elizabeth Royte [explains](#), "Experiments show that microplastics damage aquatic creatures, as well as turtles and birds: They block digestive tracts, diminish the urge to eat, and alter feeding behavior, all of which reduce growth and reproductive output. Their stomachs stuffed with plastic, some species starve and die." [30] The Ocean Conservancy includes plastic bags, utensils, balloons, and bottle caps on their list of "[The Deadliest Ocean Trash](#)." [31]

- II. Chemically:** Royte continues, "Microplastics have chemical impacts, because free-floating pollutants that wash off the land and into our seas—such as polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and heavy metals—tend to adhere to their surfaces." "[Another experiment](#) demonstrated that oysters exposed to tiny pieces of polystyrene—the stuff of take-out food containers—produce fewer eggs and less motile sperm." [30]

## C. HUMAN HEALTH CONCERNS

- I. Life Cycle of Single-Use Plastics:** A coalition of NGOs and academic partners published [Plastic and Health: The Hidden Costs of a Plastic Planet](#) in February 2019. The key findings include:
- **"Plastic requires a lifecycle approach.**
  - **At every state of its lifecycle, plastic poses distinct risks to human health,** arising from both exposure to plastic particles themselves and associated chemicals. The majority of people worldwide are exposed at multiple stages of this lifecycle [including:]
    - **Extraction and Transport of Fossil Feedstocks for Plastic...** particularly the use of hydraulic fracturing for natural gas...Over 170 fracking chemicals that are used to produce the main feedstocks for plastic have known human health impacts, including cancer, neurotoxicity, reproductive and developmental toxicity, impairment of the immune systems, and more.
    - **Refining and Production of Plastic Resins and Additives...** releases carcinogenic and other highly toxic substances into the air.
    - **Consumer Products and Packaging.** Use of plastic products leads to ingestion and/or inhalation of large amounts of microplastic particles and hundreds of toxic substances with carcinogenic, developmental, and endocrine disrupting impacts.
    - **Toxic Releases from Plastic Waste Management...** plastic waste technologies (including incineration, co-incineration, gasification, and pyrolysis) result in the release of toxic metals such as lead and mercury, organic substances (dioxins and furans), acid gases, and other toxic substances.
    - **Cascading Exposure as Plastic Degrades...** As plastic particles continue to degrade, new surface areas are exposed, allowing leaching of additives from the core to the... environmental and human body.

- **Uncertainties and knowledge gaps undermine the full evaluation of health impacts, [including:]**
  - **Extreme lack of transparency** of the chemicals in most plastic and its production
  - **Intersecting Exposures and Synergistic Effects**
  - **Plastics in the Food Chain**
  - **Plastic in People”** [32]

**II. Microplastics:** Scientist do not completely understand how microplastics effect human health. Yet, the European Commission’s chief scientific advisors wrote in an April 2019 [report](#) that “Growing scientific evidence on the hazards of the uncontrolled, irreversible, and long-term ecological risks due to microplastics do exist for some coastal waters and sediments. Scientists predict that, if emissions to the environment continue at the current rate or increase, ecological risks could be widespread within a century... there are significant grounds for concern and for precautionary measures to be taken.” [33]

**a. Human Consumption:** One [study](#) estimated that United States residents eat, drink, and breathe 78,000-125,000 microplastic pieces each year. These are probably under-estimates. [34] Studies have found microplastics in both bottled and tap water. [32]

Royte explains, “Studying the impacts of marine microplastics on human health is challenging because people can’t be asked to eat plastics for experiments, because plastics and their additives act differently depending on physical and chemical contexts, and because their characteristics may change as creatures along the food chain consume, metabolize, or excrete them. We know virtually nothing about how food processing or cooking affects the toxicity of plastics in aquatic organisms or what level of contamination might hurt us...”

**[b. In the Body:** ...Marine plastics... eventually will degrade and fragment into nanoplastics, which measure less than 100 billionths of a meter—in other words, they are invisible. Alarmingly these tiny plastics can penetrate cells and move into tissues and organs. But because researchers lack analytical methods to identify nanoplastics in food, they don’t have any data on their occurrence or absorption by humans.” [30]

Johnson and Norris [explain](#) “...The lightweight nature of plastics means that they are easily dispersed throughout the environment via wind or water, and can fragment, float or become suspended in water. And since plastics are based on organic molecules, they attract other organic molecules when present, including persistent organic pollutants (POPs) like DDT, PCBs or hydrocarbons. In fact, numerous studies document the accumulation of POPs in the fatty tissues of higher order fish and marine mammals (see articles in [Environmental Pollution](#) and [Journal of Environmental Monitoring](#)).” [17]

- III. **Chemical Concerns—Plastic Chemistry Varies Widely:** Royte explains, “Plastic isn’t one thing. It comes in many forms and contains a wide range of additives—pigments, ultraviolet stabilizers, water repellents, flame retardants, stiffeners such as bisphenol A (BPA), and softeners called phthalates—that can leach into their surroundings.

Some of these chemicals are considered endocrine disruptors—chemicals that interfere with normal hormone function, even contributing to weight gain. Flame retardants may interfere with brain development in fetuses and children; other compounds that cling to plastics can cause cancer or birth defects. A basic tenet of toxicology holds that the dose makes the poison, but many of these chemicals—BPA and its close relatives, for example—appear to impair lab animals at levels some governments consider safe for humans.” [30]

“Most plastic utensils are made of polystyrene, which can release toxic chemicals when heated.” [29]

- IV. **PFAS:** Manufacturers add PFAS to some paper and fiber products, including single-use food service products. The Collaborative Network for a Cancer-Free Economy [explains](#), “PFAS constitute a class of over 3,000 fluorinated chemicals that persist in the environment for a very long time. The most studied chemicals in the class, PFOA and PFOS, have been associated with cancer, developmental toxicity, immunotoxicity, and other health effects.” [35] [36]

By January 2020, BPI certified compostable products will not contain intentionally added fluorinated chemicals and will be tested to ensure they do not contain too much unintentionally added fluorinated chemicals (e.g. from a previous manufacturing stage). [37]

- V. **Battery Hazards:** Battery technology has advanced rapidly producing smaller, more powerful, and longer lasting batteries than before. Batteries in single-use items contain metals that can be recycled. Some of these are heavy metals, such as nickel, cadmium, lithium, or mercury, which can get into the environment and harm human health if not managed properly. Lithium and lithium-ion batteries can explode or cause fires if damaged. Often product design makes it challenging or impossible to get batteries out of these items safely by the user without damaging the batteries. Currently, there is no requirement to label these single-use items, so many consumers do not know that the product contains a battery.

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**Attachment B: Single-Use Products Working Group—Table of Actions Proposed for  
Consideration by the General Assembly to Further the Goals of Act 69**

DRAFT

**Single-Use Products Working Group (SUPWG) — Actions Proposed for Consideration by the General Assembly to Further the Goals of Act 69**

This table combines actions proposed by the members of the SUPWG for review by the Vermont General Assembly during the 2020 legislative session. Each proposal is intended to satisfy one or more of the following goals of Working Group: reduce the use of single-use products (SUPs), reduce the environmental impact of SUPs, improve statewide management of SUPs, divert SUPs from disposal in landfills, or prevent contamination of natural resources by discarded SUPs. The proposals are not listed in any priority order.

PROPOSED ACTION	PROs	CONs	NOTES
<b>Product Bans</b>			
Ban provision and use of plastic eating utensils, plates, and bowls.	<ul style="list-style-type: none"> <li>Alternative utensils would be compostable.</li> <li>Reduces the number of single-use products (SUPs).</li> <li>Improves waste management.</li> <li>Diverts products from landfills.</li> </ul>	<ul style="list-style-type: none"> <li>There is no standard for natural decomposition of products.</li> <li>VT lacks infrastructure to deal with compostable products.</li> <li>Lack of access to products in alternative packaging.</li> <li>Sanitation issues with alternative materials.</li> <li>Drives use of compostable vs. recyclable utensils without infrastructure.</li> </ul>	<ul style="list-style-type: none"> <li>Need discussion of definition of compostable.</li> <li>Proposal could benefit from a life cycle analysis (LCA).</li> <li>Should the ban be on “nonrecyclable” or “noncompostable” products and not “plastic”?</li> <li>Setting (school, restaurant, etc.) is important</li> <li>Flatware is not recyclable at all.</li> </ul>
Ban toxic additives in food packaging and food service items.	<ul style="list-style-type: none"> <li>Reduces human exposure and impacts to environment.</li> <li>Public health benefit.</li> <li>Reduces cost to the State.</li> </ul>		<ul style="list-style-type: none"> <li>Reconcile how this proposal interfaces with the Chemicals of High Concern to Children Program.</li> </ul>
Ban single-use personal care products (shampoo, soap, and any product on your skin) in hotels, public dollars for packaged water for State and municipal.	<ul style="list-style-type: none"> <li>Reduces volume of SUPs.</li> <li>Reduces environmental impacts.</li> <li>Improves management of waste system.</li> <li>Diversion from disposal.</li> <li>Measurable.</li> <li>Reduces contamination of natural resources.</li> </ul>		<ul style="list-style-type: none"> <li>Emergency situation may override packaged water ban (see other states).</li> </ul>

PROPOSED ACTION	PROs	CONs	NOTES
<b>Product Standards or Goals</b>			
Reduction in waste of SUPs by certain date.	<ul style="list-style-type: none"> <li>Increases clarity of a timeline for action.</li> <li>Reduces volume of SUPs.</li> <li>Reduces environmental impacts.</li> <li>Improves management of systems.</li> <li>Diversion from disposal.</li> <li>Goal oriented.</li> <li>Measurable.</li> <li>Reduces contamination of natural resources.</li> </ul>		<ul style="list-style-type: none"> <li>See California goal of 75% recovered recycled material by 2020.</li> </ul>
Increase the mandate for recycled content.	<ul style="list-style-type: none"> <li>Reduces environmental impacts.</li> <li>Promotes a circular economy.</li> <li>Benefits recycling system.</li> <li>Incentive to reduce disposal.</li> <li>Measurable.</li> </ul>	<ul style="list-style-type: none"> <li>Availability of material for use in recycled content.</li> <li>May adversely alter market.</li> </ul>	<ul style="list-style-type: none"> <li>FDA food contact restrictions.</li> <li>Reduces use of virgin materials.</li> </ul>
Recyclability, reusability, compostability, reduction goals of packaging.	<ul style="list-style-type: none"> <li>Clarity for stakeholders.</li> <li>Flexible means for achieving goal.</li> </ul>	<ul style="list-style-type: none"> <li>Doesn't address the cost of VT recycling program.</li> <li>Doesn't reduce volume of waste.</li> <li>Doesn't account for other environment impacts (LCA).</li> </ul>	<ul style="list-style-type: none"> <li>Voluntary EPR for manufacturers?</li> <li>See California Senate Bill 54 and Assembly Bill 1080.</li> <li>Definition of recyclable?</li> </ul>
<b>Eco-modulated Fees</b>			
Fee on all printed materials, packaging.	<ul style="list-style-type: none"> <li>Funding for recycling system.</li> </ul>	<ul style="list-style-type: none"> <li>No manufacturer control or incentive, which would lead to fee being added to product cost.</li> <li>How to implement and divide fees collected?</li> </ul>	<ul style="list-style-type: none"> <li>Alternative to EPR.</li> </ul>

PROPOSED ACTION	PROs	CONs	NOTES
<b>Extended Producer Responsibility</b>			
Discontinue or integrate bottle redemption and replace with EPR for printed materials and packaging.	<ul style="list-style-type: none"> <li>Assists with recycling system costs and market.</li> <li>Provides incentive for more items to be recycled.</li> </ul>	<ul style="list-style-type: none"> <li>Puts redemption centers out of business (if bottle bill discontinued).</li> </ul>	<ul style="list-style-type: none"> <li>A successful U.S. model needs to be developed.</li> <li>The impact on consumer prices should be assessed.</li> </ul>
Glass EPR/container fee.	<ul style="list-style-type: none"> <li>Produces higher-quality glass recyclable material.</li> <li>Creates revenue stream to support mixed glass recycling.</li> </ul>	<ul style="list-style-type: none"> <li>Bottle bill may go away, unpopular.</li> </ul>	<ul style="list-style-type: none"> <li>Promoting more mixed stream of recycling.</li> </ul>
EPR for hard-to-recycle plastics (3, 6, & 7).	<ul style="list-style-type: none"> <li>Reduces costs to MRF.</li> <li>Reduces waste.</li> </ul>	<ul style="list-style-type: none"> <li>Increases cost to manufacturers and products.</li> <li>Loss of local control over solid waste (see British Columbia).</li> <li>Higher administrative costs when a PRO is established.</li> </ul>	<ul style="list-style-type: none"> <li>Stewardship plans need to be approved (counter to loss-of-control con).</li> </ul>
EPR program for single-use products and printed materials with eco-modulated fees that encourage low carbon footprint, recycled content, nontoxic and recyclable.	<ul style="list-style-type: none"> <li>Incentive to reduce environmental impacts.</li> <li>Provides public health benefit.</li> <li>Reduces environmental impacts.</li> <li>Improves management of systems.</li> <li>Diversion from disposal.</li> <li>Goal oriented.</li> <li>Measurable.</li> <li>Assists with finances of VT recycling system.</li> <li>Reduces contamination of natural resources.</li> </ul>	<ul style="list-style-type: none"> <li>Complex.</li> <li>Hard to establish criteria and collect product information.</li> </ul>	<ul style="list-style-type: none"> <li>Producers involved in education.</li> <li>Is food waste assumed or not assumed in LCA?</li> <li>Modulated fee factors may be in conflict.</li> <li>Impact on consumer prices and access to products should be assessed.</li> </ul>

PROPOSED ACTION	PROs	CONs	NOTES
<b>Bottle Bill</b>			
Expand bottle bill to cover water, wine, other bottles; increase deposit to \$.10; review and correct inefficiencies in system.	<ul style="list-style-type: none"> <li>Reduces environmental impacts.</li> <li>Diverts from disposal.</li> <li>Reduces contamination of natural resources.</li> <li>Higher quality recycled material.</li> </ul>	<ul style="list-style-type: none"> <li>Potentially increased cost for recycling system (blue bin).</li> </ul>	<ul style="list-style-type: none"> <li>Increase comingling.</li> <li>Address restaurant redemption.</li> <li>Address fraud.</li> </ul>
Reduce the volume of waste glass by diversion to waste markets.	<ul style="list-style-type: none"> <li>Reduces MRF costs.</li> <li>Increases recycled glass.</li> </ul>	<ul style="list-style-type: none"> <li>Current system has too many sorts.</li> </ul>	<ul style="list-style-type: none"> <li>Comingling is voluntary.</li> <li>Optimizing the recycling stream separate from the financing stream.</li> <li>Could be addressed through EPR.</li> </ul>
Increase deposit/redemption of bottle bill to \$.15; review and correct inefficiencies in system.	<ul style="list-style-type: none"> <li>Increase amount of redemption of \$.05 containers.</li> </ul>		<ul style="list-style-type: none"> <li>Address restaurant redemption.</li> </ul>
<b>Consumer Focused Measures</b>			
Avoid increases in consumer prices and maintain access to products.	<ul style="list-style-type: none"> <li>Reduces potential shopping out of state.</li> <li>Reduces potential lack of access to products.</li> </ul>		<ul style="list-style-type: none"> <li>Complexity of supply chain and tracking.</li> </ul>
Increase consumer education, motivation to recycle.	<ul style="list-style-type: none"> <li>Increased recycling.</li> <li>Less material in landfill.</li> </ul>		<ul style="list-style-type: none"> <li>All stakeholders should participate in consumer education, including manufacturers, retailers, waste industry, and the State.</li> </ul>
Establish stakeholder task force for ongoing review of system and provide guidance based on experience.	<ul style="list-style-type: none"> <li>Recycling is a complex, evolving system, and the State needs to stay in touch with markets.</li> </ul>		



PROPOSED ACTION	PROs	CONs	NOTES
Consumer education on contamination.	<ul style="list-style-type: none"> <li>Improve recycled material streams.</li> </ul>		<ul style="list-style-type: none"> <li>See Washington State “how to recycle this” programs.</li> <li>Education collaboration between manufacturers, State municipalities, and solid waste management.</li> </ul>
Active enforcement of existing State solid waste laws/programs.	<ul style="list-style-type: none"> <li>Reduction of litter.</li> <li>Less contamination.</li> </ul>	<ul style="list-style-type: none"> <li>Would only change amount of material into recycling system a small %.</li> <li>Puts burden on consumers, who have little control.</li> </ul>	<ul style="list-style-type: none"> <li>We already have 72% recycling.</li> </ul>
<b>Other: Non-Single-use Product Related</b>			
Batteries (lithium added to EPR stewardship program) Including lithium-battery embedded products.	<ul style="list-style-type: none"> <li>Increased safety for recycling programs and disposal facilities.</li> </ul>	<ul style="list-style-type: none"> <li>Cost of device will increase.</li> </ul>	<ul style="list-style-type: none"> <li>Could be out of WG scope?</li> <li>Refer to appropriate bill.</li> <li>This is a safety issue.</li> </ul>

**Attachment C: Individual Recommendation of Each Member of the Single-Use Products Working Group; Collected for the Purposes of Developing the Table in Attachment B**

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Single-Use Plastics suggestions 10/18/2019  
Jim McCullough

Not necessarily by order of preference...

- Ban single-use plastic eating utensils and plates/bowls
- Establish EPR for film plastics
- Discontinue bottle redemption and replace with EPR for plastic and glass containers; includes deposits and escheats managed by industry

DRAFT

Single Use Products Working Group  
Vermont General Assembly  
Kimberly A. Crosby  
Casella Waste Systems, Inc.  
October 18, 2019

Act 69 Single Use Products – Top Priorities

Based on our longstanding commitment to advancing sustainable resource renewal innovations, Casella has invested millions of dollars in Vermont's public recycling infrastructure dating back to the seventies when we opened one of the first public recycling facilities in the state. We continue to invest in these facilities to provide Vermonters with the great recycling services they have come to expect, processing over 100,000 tons of recycling each year in Vermont.

Notwithstanding the state's progress, the necessary combination of processing infrastructure and markets for recovered commodities does not exist for some post-consumer materials. In these cases, policy interventions such as EPR, bans, or other measures may be warranted.

1) **Glass**

Because there are no economic local markets for glass recycled in Vermont's public recycling system, we believe the Working Group should evaluate and/or recommend an EPR program covering all glass beverage and food containers. Funds collected through the program could potentially support both infrastructure to clean up glass from MRFs, and the development of more local/regional markets for recycled glass.

2) **Hard-to-recycle plastics**

Few markets exist for plastics numbered 3, 6 & 7. We would be supportive of an EPR on these items that would either incentivize manufacturers to produce their products in PET, HDPE & PP (1, 2 & 5); or be invested to develop the requisite local/regional processing infrastructure and market outlets for recycled 3, 6 & 7 commodities.

3) **Contaminants of Emerging Concern**

Many common household items including textiles, furniture, cleaning products, etc. contain chemicals that are being revealed to pose threats to human health and the environment. For example, a recent focus has been on PFAS. The cost associated with the proper handling and treatment of these substances should be borne by the producers who designed and/or selected them for use in their products. Going forward, such a mechanism might also provide an incentive for manufacturers to address and eliminate such substances in the design of their products.

4) **Batteries**

Vermont has a primary battery stewardship program; however, the current program does not include lithium batteries that continue to show up in the curbside trash and recycling stream, putting workers and the environment at risk. We believe the state should enhance the existing program to improve its effectiveness in keeping these items out of the disposal and recycling systems.

Vermonters continue to unnecessarily subsidize redundant recycling infrastructure for materials that are perfectly suited for blue bin recycling. The deposit program for aluminum cans and PET bottles should be discontinued, so the associated energy, attention, and resources can be focused on materials that require separate infrastructure.

## Sigrist priorities and issues for Single Use Products Working Group

1. Avoid increases in consumer prices and maintain access to products

Vermont's landscape is not capable of handling increased consumer costs or a reduction in access to consumer packaged goods. Consumers and retailers are already facing increased costs and competitive pressures.

2. Identify opportunities to increase consumer motivation to recycle

Expanding consumer outreach and education on recycling best practices, consider potential incentives, standardizing recycling rules, and continuing to strengthen existing programs (i.e. Act 148) in order to provide more access to recycling

3. Establish stakeholder taskforce

The current system is made up of several industries and faces constantly changing markets. Consider establishing a small taskforce of all industry stakeholders to review and provide systemic guidance to designated departments and agencies in enforcement of recycling regulations.

## Single-Use Products Working Group Policy Proposals

Submitted by: Vermont Conservation Voters

October 18, 2019

**Goal: Vermont should adopt a goal of reducing waste from single-use packaging and products by 75% by 2030**

Vermont should establish a statewide goal, similar to the “Circular Economy and Pollution Reduction Act” being deliberated in California, which would require the Vermont Department of Environmental Conservation (DEC) to develop a plan and adopt regulations that will achieve and maintain, by January 1, 2030, a 75% reduction of the waste generated from single-use packaging and priority single-use products through source reduction, recycling, and/or composting. Legislation establishing this goal should authorize DEC to determine a set of priority single-use products, and establish which actions producers may undertake to meet the state goal. Such legislation would require producers to: (1) reduce the use of single-use packaging and single-use products prioritized by the Department, to the maximum extent feasible, and (2) ensure that all single-use packaging and prioritized single-use products that are manufactured on or after January 1, 2030, and that are offered for sale in Vermont are recyclable or biodegradable.

Having a clear statewide goal requiring a dramatic reduction in waste from single-use packaging and products, and requiring a roadmap to achieve those reductions, will help ensure state policymakers, manufacturers, and other stakeholders have clarity on where we are heading, and that the policies the state is pursuing are in line with - and commensurate with - achieving the goals we establish.

Below are several specific policies the Legislature could enact to help set us on course to meet the 75% waste reduction goal.

### Bans

- **Single-Use Food Packaging.** Contact with plastics, and chemicals added to plastics, in consumer products is a pathway for exposure to toxic chemicals. The current regulatory framework does not protect Vermonters from exposure to toxics in food packaging, nor does it incentivize reductions in the use of single-use food packaging. We therefore propose that the State of Vermont should ban single-use food packaging (other than that covered by Vermont’s Beverage and Container Redemption Law) unless it is 100 percent recyclable in Vermont, truly biodegradable, and toxic-free. Single-use products meeting these requirements should also meet new requirements for increasing levels of post-consumer recycled content.
- **Hotel shampoo bottles.** Require lodging establishments to only provide their customers with toiletries in bulk dispensers by prohibiting the use of personal sized containers (those under 6oz in size). Many large hotel chains are already making changes in their operations that meet these requirements, and similar legislation was recently signed into law in California.
- **Packaged Water.** Prohibit the purchase of packaged water using public funds. Numerous cities across the U.S. have banned the use of public funds for bottled water including San Francisco, Chicago, Boston, Minneapolis, and New York City.

## Extended Producer Responsibility

- ***Bottle Bill Modernization.*** Modernize Vermont's successful beverage redemption program by 1) expanding its scope to cover PET water bottles, wine bottles, hard cider, sports drinks and juices, and 2) increase the deposit from 5 cents to 10 cents and consider including an automatic increase in the deposit if the redemption rate drops below 80% in two consecutive years.

The current law places deposits on about 300 million containers sold in Vermont each year (mostly beer, soda and liquor). If Vermont expanded its program to include domestic non-sparkling water bottles (less than one gallon in size), an additional 175 million containers would be added to the system. Sports drinks would add another 8.3 million containers. And wine containers (mostly glass bottles) would add another 17.7 million containers, for a total of approximately 201 million additional containers per year (using 2015 sales data). That would be an immediate 40 percent increase in the number of containers covered by Vermont's Bottle Bill system.

Containers redeemed through this system are cleaner and more valuable than similar containers collected through the zero-sort process. It's also more likely that these containers could be part of the circular economy by being turned into beverage containers or other useful items again. Having clean, post-consumer recycled material that can be used by manufacturers to make new containers is critical if recycled content goals (voluntary or mandatory) are to be achieved.

- ***Packaging.*** Reducing the overall quantity of single-use packaging waste produced in Vermont is a critical goal. An EPR approach could require companies to pay a fee based on the volume of packaging they use in their operations. Revenues generated by this fee could be used to support recycling and/or composting programs at the solid waste districts.

An effective system should also include eco-modulated fee rates, based on:

1. The level of recyclability of the packaging used (recyclable with existing technology, composite products, packaging that interferes with recycling overall, use of hazardous or toxic additives, etc).
2. The amount of recycled content used in packaging materials.
3. The use of biodegradable materials.
4. The presence of toxic chemicals.

## Require Increasing Percentages of Post-Consumer Recycled Content

- Any EPR approaches should be coupled with a mandate to increase post-consumer recycled content in single-use packaging over time, as another effective way to reach the overarching goal of reducing waste from single-use products and promoting a robust circular economy.

**Considerations for the Single-Use Products Working Group**  
**From Agency of Natural Resources**  
October 18, 2019

At the October 8<sup>th</sup> Single-Use Products (SUP) Working Group meeting, it was requested that members provide a short description of priorities for the Working Group to consider.

**Purpose:** Section 3 of Act 69 states the purpose of the SUP Working Group is to make recommendations that would:

- (A) reduce the use of single-use products;*
- (B) reduce the environmental impact of single-use products;*
- (C) improve statewide management of single-use products;*
- (D) divert single-use products from disposal in landfills; and*
- (E) prevent contamination of natural resources by discarded single-use products.*

**Issues:** The Working Group has discussed the following issues:

1. **Significant landfill capacity** is used to dispose Single-Use Products (~ 1/3 of MSW disposed in VT are SUPs). In addition, not all SUPs can be recycled; approximately half of SUPs that are currently disposed could be recycled.
2. **Recycling costs** have increased dramatically and need to be addressed, in order to sustain recycling and before requiring additional materials be recycled.
3. There are **negative environmental impacts** from SUPs.

**Options:** The Working Group should continue to discuss these challenges and potential solutions, which may include the following:

- **Extended Producer Responsibility (EPR)** covering packaging, paper and printed materials, where manufacturers share in the responsibility for managing these materials.
- **Fee for Packaging & Paper**, where manufacturers pay a nominal fee for each product sold in the state and funds could be used to reduce the cost to recycle or dispose of that product or packaging.
- Consider solutions for **harder to manage materials**, such as glass.
- **Bans from sale** for SUPs that are likely to be improperly disposed (litter) **or be made from materials that naturally decompose** and not cause environmental impacts.
- **Post-consumer recycled content**, phased-in over time, for certain items to be sold in Vermont, such as plastic containers and plastic bags that are not banned, including garbage bags.



Proposal for the Single-Use Products Working Group  
Submitted by Jen Holliday 10/18/19

Problem:

The costs related to managing single-use products at the end of their life, as well as the environmental impact and health risks associated with their use, are all externalized costs paid for after the purchase of the product. Some single-use products have a larger environmental footprint or are more toxic or more recyclable than others. Although some producers of these products are considering these impacts when making their products, others are not because there is little incentive to do so. Additionally, in the past two years, the costs for managing recycling has reached an all-time high with markets saturated and demand for recycling commodities low. Market fluctuations have caused many local governments throughout the U.S. to drop their recycling programs due to these high costs. Vermont solid waste management entities, haulers and transfer stations and MRFs are also struggling. Without the mandates of Act 148, many of these recycling programs in Vermont would likely have been dropped by now.

Recommendations:

1. That the legislature directs ANR to develop a proposal for EPR legislation for single-use products that is structured in a way that encourages single-use products to have a low carbon footprint, recycled content, be non-toxic and recyclable. This would be achieved through a modulated fee structure where the favorable attributes would be rewarded with lower fees. The producers would be responsible for developing the fee structure and managing it. ANR would approve the fee structure or it could be approved by an authority made up representatives from the industry, ANR and the environmental community. The legislation would require the current infrastructure to be utilized but the funding to collect and manage single-use products would come from the producers. Management costs that would be covered includes, collection, recycling, disposal and litter clean-up. Producers would also be responsible for providing additional infrastructure and education.
2. Investigate requirements for recycled content in certain products to increase demand for recycling commodities.

1.) Expanded Bottle Bill: cover more glass items and increase deposit on cans. That said I would like to look at current inefficiency in the redemption system and ensure it is not hurting small businesses that recycle rather than redeem.

2.) Set a goal of reducing waste for single-use packaging and products. One arm of this would be a ban on single-use toiletry items in hotels, B&Bs, etc.

3.) EPR: but not sure what to state to follow on this and if a ban on the packaging would supersede this.

Stephanie Bonin,  
Executive Director

Single-Use Products Working Group  
Additional priority for consideration  
Jen Holliday, Chittenden Solid Waste District  
10/21/19

Modernize the bottle bill with the following:

- a. Expand to bottle bill to include all glass beverage containers as well as glass food containers. Glass is difficult to process and market in the recycling system and has more market value and options if it is collected and processed separately.
- b. Remove PET and aluminum beverage containers from the bottle bill system. The aluminum and PET beverage containers collected from consumers that take them back to retailers and redemptions centers do not go into Vermont's material recovery facilities that process blue bin recyclables in Vermont. Instead, they are consolidated and marketed separately. These materials have a high market value. Costs for recycling would become more sustainable If PET and aluminum beverage containers were removed from the bottle bill and instead, they were captured in the blue bin recycling system.
- c. Increase the deposit to \$.10 for glass only bottle bill.

**Andrew Hackman, AMERIPEN  
Vermont Single Use Products Working Group  
Top-3 Priorities**

- 1. Recyclability Goals** – Packaging manufacturers and consumer goods brands would like to work with states like Vermont to set and achieve mechanisms to have packaging 100% recyclable by 2030. We would like to explore with the Working Group how such a goal could be achieved and how that would positively impact the goals of this effort.
- 2. Consumer Education on Contamination** - Contaminated recyclables is at the heart of the China National Sword policy and problems with recycling in Vermont and beyond. On average, 25% of the materials received at MRFs is non-recyclable “contamination” that has to clean up the material to meet the stringent quality specifications for outbound material bales.

It is critical that Vermont, develop aggressive efforts to address contamination through consumer education and enforcement and consistent messaging with local solid waste authorities about what materials can be accepted in each community. Efforts should be made by the Working group to look at states like Washington State and others are having success with education efforts and these should be evaluated for use in Vermont as well.

- 3. Active Enforcement of Existing State Solid Waste Programs** - Under the Universal Recycling law Recyclables were banned from the landfill, statewide unit based pricing should be in effect, and requiring residential trash charges be based on volume or weight. Active enforcement of these requirements should be having an impact on diversion and recycling, coupled with the recyclability goal stated above, we would like to focus on improving performance if higher recyclable packaging materials coupled with existing mandates and consumer education – with more active enforcement – could impact the recycling system in Vermont.

Senator Bray SUPWG Recommendations, Goals, and Strategies—Emerging from our meetings—and the basis for further discussions

ACT 69 calls for recommendations to...	GOAL	STRATEGY	NOTES
<b>REDUCE the use of single use products</b>	REDUCE the volume of single use beverage packaging	<p>GLASS: because of the performance of the bottle bill stream (producing cleaner, more valuable glass waste) increase the number of glass items that are handled via the bottle bill in order to convert them into usable products, either with a similar purpose (new glass bottles) or different purposes (such as insulation);</p> <p>Example: wine and other beverages in glass (iced teas) to the bottle bill.</p> <p>and</p> <p>PLASTIC: explore economics and potential system performance enhancements plastics (#1, PET) into the bottle bill.</p> <p>and</p> <p>ALUMINUM: explore economics and potential system performance enhancements of bringing aluminum into the bottle bill.</p> <p>Example: beer and cider</p>	<p>In beverages, dominated by non-reusable packages (ie glass bottles are only very rarely refilled, and plastics are virtually never refilled), concede that single use packaging (bottles) will continue to be used, change the marketplace to support more environmentally sound solid waste management of them; evaluate impacts of:</p> <ul style="list-style-type: none"> <li>(i) creating a post consumer waste (PCW) content requirements for sold produced in products in VT; and</li> <li>(ii) increasing the bottle deposit to 10¢ to support higher performance handling of this waste (e.g. reduced landfilling, increased reuse). Help those handling these bottles succeed.</li> </ul> <p>The cost of making these improvements should be borne by those creating the waste to be managed; this includes consumers, but is more effectively handled by having the producer support the system that enables consumers to “do the right thing.”</p> <p>That is, producers create the problem (handling and clean up costs). An environmental fundamental tenet says “the cost causer should pay.” That said, the consumer enables the producer to engage in this behavior, and she or he therefore becomes the producer’s partner in having a</p>

ACT 69 calls for recommendations to...	GOAL	STRATEGY	NOTES
			responsibility and role in solving this problem.
<b>REDUCE the use of single use products</b>	REDUCE the volume of single use non-beverage packaging (packaging of all types)	Implement EPR for this category of good.	Breadth, scope, and timing TBD and dependent in part upon what other jurisdictions put into law.  Implement a PCW requirement to boost marketplace for the solid waste system; that is help create the market that can enable EPR to function well.

ACT 69 calls for recommendations to...	GOAL	STRATEGY	NOTES
<p><b>REDUCE the environmental impact of single use products</b></p>	<p>ELIMINATE use of single-use plastic packaging</p>	<p>Implement EPR for this category of good</p>	<p>Breadth, scope, and timing TBD and dependent in part upon what other jurisdictions put into law.</p> <p>Implement a 100% PCW requirement to boost marketplace for the solid waste system; that is help create the market that can enable EPR to function well;</p> <p>and/or</p> <p>implement a 100% plastic-free and biodegradable under normal environmental conditions requirement.</p> <p>Reasoning: public health impacts should be the primary driver of the packaging redesign discussion; health over carbon footprint, etc.</p>

Single-use Product Working Group  
John Leddy  
Northwest Vt. Solid Waste District

It is the charge of this group to examine single-use products and their impacts on Vermont. My lens for that examination comes from a waste stream perspective. As Cathy Jameson testified, our Vermont waste stream is largely comprised of single-use products, as defined by our charge. These products significantly add to both the volume and cost of Vermont's waste stream. While Vermonters do a fairly good job at recycling single use products that are recyclable, there are a significant number of these items that aren't. Single-use products accumulate in Vermont's only landfill at an ever increasing rate reducing the state's landfill capacity for the future. Additionally, many single-use products that aren't recyclable are mistakenly put in the recycling where they contaminate the recycling system or are discarded as litter and contaminate our environment. The recycling system in Vermont, while much better off than other parts of the United States, has suffered a significant increase in costs largely caused by contamination of un-recyclable material. These problems are exacerbated by manufacturers who produce, promote, and distribute an increasing array of packaging and other single use products at an increasing rate.

Therefore, I would suggest that the group move forward with a focus on the following three things: 1. Reduce the amount, by volume or weight, of single-use products that are sold in Vermont. 2. Make steps to increase both the recyclability of single-use products and the amount of recycled content in those products that are sold in Vermont. 3. Pass (some/most) of the cost of the management of the waste caused by single-use products to manufacturers.

As seen in the testimony received by this group, Extended Producer Responsibility (EPR) can be an effective tool to make manufacturers responsible for the products they sell. The EPR system would raise funds for the recycling and disposal of single-use products. Through the use of modulated fee schedules, which incentivize certain qualities such as recycled content or recyclability, EPR can effectively encourage manufacturers to use materials that are better for the Vermont waste system or reduce the volume of waste generated from these products. For these reasons, the Single-use Product Working Group should move forward in the pursuit of an EPR system for single-use products in Vermont.



VLCT really only has two issues – 1. Cost on municipalities (either as stand-alone munis managing their own SW, or those paying the SW districts to cover their SW needs); and 2. Ensuring no new mandates are pushed that cannot be adequately managed on SW districts (so again, adequate funding, flexibility, authority).

Hope that helps.

Best,

Gwynn Zakov,  
Municipal Policy Advocate  
Vermont League of Cities & Towns

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**Attachment E. Witness Testimony Submitted to the Single-Use Products Working Group**

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## **Witness testimony Submitted to Single-Use Products Working Group**

### **1. Tuesday, September 10, 2019**

- a. Michael O’Grady, Office of Legislative Council, Vermont General Assembly, ACT 69: An Act Relating to the Management of Single-Use Products; Overview of Requirements, available at <https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Mike%20O’Grady~Overview%20of%20Requirements~9-10-2019.pdf>
- b. John Leddy, Executive Director, Northwest Solid Waste District, Management of Single-Use Products at the Solid Waste District Level, available at <https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~John%20Leddy~Management%20of%20Single-Use%20Products%20at%20the%20Solid%20Waste%20District%20Level~9-10-2019.pdf>
- c. Michael O’Grady, Office of Legislative Council, Vermont General Assembly, Legislative Charge of Single-Use Products Working Group: 2019 Acts & Resolves No. 69, Sec. 3, available at <https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Mike%20O’Grady~Working%20Group%20Legislative%20Charge~9-10-2019.pdf>
- d. Cathy Jamieson, Solid Waste Program Manager, Vermont Agency of Natural Resources, Department of Environmental Conservation, Background Information for the 2019 Vermont Single-Use Products Working Group, available at <https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Cathy%20Jamieson~Background%20Information%20for%20the%20Working%20Group~9-10-2019.pdf>; see also Attachment A of this report.

### **2. Tuesday, September 24, 2019**

- a. Sarah Faye Pierce, Association of Home Appliance Manufacturers, Plastics and Packaging, Vermont Working Group on Single-Use Packaging, available at <https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Sarah%20Faye%20Pierce~Plastics%20and%20Packaging~9-24-2019.pdf>
- b. Scott Cassel, Founder and CEO, Product Stewardship Institute: Who is Responsible for Recycling Packaging?, available at <https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Scott%20Cassel~Who%20is%20Responsible%20for%20Recycling%20Packaging~9-24-2019.pdf>
- c. Scott Cassel, Founder and CEO, Product Stewardship Institute, Extended Producer Responsibility for Packaging in other Jurisdictions, available at <https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Scott%20Cassel~Extended%20Producer%20Responsibilities~9-24-2019.pdf>

- d. Cathy Jamieson, Solid Waste Program Manager, Vermont Agency of Natural Resources, Department of Environmental Conservation: Basic Components to consider for Single-Use Products EPR, available at <https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Cathy%20Jamieson~Basic%20Components%20to%20consider%20for%20Single-Use%20Products%20ERP~9-24-2019.pdf>
- e. Cathy Jamieson, Solid Waste Program Manager, Vermont Agency of Natural Resources, Department of Environmental Conservation: EPR Programs Presentation, available at <https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Cathy%20Jamieson~ERP%20Programs%20Presentation~9-24-2019.pdf>
- d. Jen Holliday, Director of Public Policy & Communications, Chittenden Solid Waste District, EPR for Single-Use Products, available at <https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Jen%20Holliday~EPR%20for%20Single-Use%20Products%20presentation~9-24-2019.pdf>
- e. William Driscoll, Vice President, Associated Industries of Vermont, Framing Questions and Considerations for Discussing EPR, available at <https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~William%20Driscoll~Framing%20Questions%20and%20Considerations%20for%20Discussing%20EPR~9-24-2019.pdf>
- f. Paul Burns, Executive Director, VPIRG, Campaign to Stop Single-Use Plastics, available at <https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Paul%20Burns~VPIRG%20Testimony~9-24-2019.pdf>
- g. Paul Burns, Executive Director, VPIRG, How a Deposit Return System will Complement Ontario's Blue Box Program and Enhance the Circular Economy, available at <https://reloopplatform.eu/wp-content/uploads/2019/06/Ontario-Report-Final-Issued-2.pdf>
- h. Paul Burns, Executive Director, VPIRG, OECD, Extended Producer Responsibility-Guidance for Efficient Waste Management, available at <https://www.oecd.org/environment/waste/Extended-producer-responsibility-Policy-Highlights-2016-web.pdf>

### 3. Tuesday, October 8, 2019

- a. Martin Wolf, Director, Sustainability & Authenticity, Seventh Generation, Inc., Testimony to the Single-Use Products Working Group Elena Bertocci: ERP Presentation, available at <https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Martin%20Wolf~Written%20Testimony~10-8-2019.pdf>
- b. Paula Clark and Elena Bertocci, Maine Department of Environmental Protection, Division of Materials Management, LD 1431 and Response, available at

<https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Elena%20Bertocci~ERP%20Presentation~10-8-2019.pdf>

c. Paula Clark and Elena Bertocci, Maine Department of Environmental Protection, Division of Materials Management, Text of H.P. 1041 - L.D. 1431, Resolve, To Support Municipal Recycling Programs, available at <https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Elena%20Bertocci~Packaging%20Resolve~10-8-2019.pdf>

d. Pete Myers, PhD, Environmental Health Sciences and Carnegie Mellon University Plastics—Human Health Impacts, available at <https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Pete%20Myers~Plastics-%20Human%20Health%20Impacts~10-8-2019.pdf>

#### **4. Tuesday, October 22, 2019**

a. Chaz Miller, Miller Recycling Associate, Presentation, available at <https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Chaz%20Miller~Presentation~10-22-2019.pdf>

b. Todd Bouton, General Manager, Farrell Distributing Corporation, on behalf of the Vermont Wholesale Beverage Association, Testimony, available at <https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Todd%20Bouton~Testimony~10-22-2019.pdf>

c. Katie Reilly, Senior Manager, Environmental and Sustainability Policy, Consumer Technology Association, Comments to the Vermont Single-Use Products Working Group, available at <https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Consumer%20Technology%20Association~Comments%20to%20the%20Vermont%20Single-Use%20Products%20Working%20Group~10-22-2019.pdf>

d. Katie Reilly, Senior Manager, Environmental and Sustainability Policy, Consumer Technology Association, CTA Presentation, available at <https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Katie%20Reilly~CTA%20Presentation~10-22-2019.pdf>

e. Sarah Edwards, Director, North America and Sydnee Grushack, Consultant, Eunomia Research & Consulting, Testimony, available at <https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Sydnee%20Grushack~Written%20Testimony~10-22-2019.pdf>

f. Sarah Edwards, Director, North America and Sydnee Grushack, Consultant, Eunomia Research & Consulting, Testimony (PowerPoint), available at <https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Sydnee%20Grushack~Presentation~10-22-2019.pdf>

g. Allen Langdon, President and CEO, Encorp Pacific, The BC EPR Model: A Leader in North America, available at

<https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Allen%20Langdon~Presentation%20of%20BC%20ERP~10-22-2019.pdf>

h. Dylan de Thomas, Recycling Partnership, Together: Transforming Recycling for Good, available at

<https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Dylan%20de%20Thomas~The%20Recycling%20Partnership~10-22-2019.pdf>

## **5. Tuesday, December 3, 2019**

a. Adam Peer, American Chemistry Council, In re: Suggestions to the Single-Use Products Working Group to bolster recycling in Vermont, available at

<https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Adam%20Peer~Testimony~12-3-2019.pdf>

b. Chris Louras, General Manager, Foley Distributing, Testimony, available at

<https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Chris%20Louras~Testimony~12-3-2019.pdf>

c. Abigail Sztejn, Director, Government Affairs, American Forest & Paper Association: AF&PA Perspective for the Vermont Single-Use Products Working Group, available at

<https://legislature.vermont.gov/Documents/2020/WorkGroups/SingleUse/Documents%20and%20Testimony/W~Abigail%20Sztejn~Presentation%20Testimony~12-3-2019.pdf>

**Attachment F. Act Summary of Act 69 of 2019**

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This act summary is provided for the convenience of the public and members of the General Assembly. It is intended to provide a general summary of the act and may not be exhaustive. It has been prepared by the staff of the Office of Legislative Council without input from members of the General Assembly. It is not intended to aid in the interpretation of legislation or to serve as a source of legislative intent.

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**Act No. 69 (S.113). Conservation and land development; solid waste; single-use products; carryout bags**

**An act relating to the management of single-use products**

This act enacts multiple requirements for single-use products provided by a store or food establishment that go into effect July 1, 2020. A store or food establishment is prohibited from providing single-use plastic carryout bags. A “single-use plastic carryout bag” is a carryout bag that is made of plastic, is a single-use product, and is not a reusable grocery bag. A carryout bag is a bag provided by a store or food service establishment at the point of sale to transport groceries or retail goods. A carryout bag does not include: paper bags with a basis weight of 30 pounds or less; pharmacy bags for prescription medication; bags used inside a store to package loose items, frozen foods, meat, fish, or flowers; or dry cleaning bags.

A store or food service establishment may provide a consumer a recyclable paper carryout bag at the point of sale if the bag is provided for a charge of not less than \$0.10 per bag. The monies collected are retained by the store or food service establishment. A recyclable paper carryout bag is defined as a carryout bag that is made of paper and is recyclable.

The act prohibits a food service establishment from selling or providing a single-use plastic straw to a customer, except upon request of a person. Hospitals, nursing homes, residential care homes, assisted living homes, and independent living facilities are exempt. The Public Accommodation Act still applies if a person needs a straw to accommodate a disability or medical condition. The act also prohibits a food service establishment from providing a single-use plastic stirrer to a customer.

A person shall not sell an expanded polystyrene food service product in the State. A store or food service establishment shall not provide food or beverages in expanded polystyrene food service products. An “expanded polystyrene food service product” is a product made of expanded polystyrene that is used to sell or provide food or beverages to be used once for eating or drinking or is generally recognized as an item to be discarded after one use. Several uses are exempt, and a person may store or package a food or beverage in an expanded polystyrene food service product for distribution out of State.

A person, store, or food service establishment that violates any of the prohibitions established under the act is subject to a civil penalty. A store or food service may provide a carryout bag, single-use plastic straw, single-use stirrer, or expanded polystyrene food service product purchased prior to May 15, 2019 if the product is provided to a consumer on or before July 1, 2021. The act preempts municipal law that regulates single-use plastic carryout bags; single-use, recyclable paper carryout bags; single-use plastic straws; single-use plastic stirrers; and expanded polystyrene food service products.



The act creates the Single-Use Products Working Group to evaluate current State and municipal requirements for management of unwanted single-use products and recommend to the General Assembly how to improve statewide management of single-use products, divert single-use products from landfills, and prevent contamination by discarded single-use products.

Multiple effective dates, beginning on June 17, 2019

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