TESTIMONY OF

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MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

SPEAKING IN SUPPORT OF L.D. 1431

RESOLVE, TO SUPPORT MUNICIPAL RECYCLING PROGRAMS

SPONSORED BY REP. DEVIN

BEFORE THE JOINT STANDING COMMITTEE
ON
ENVIRONMENT AND NATURAL RESOURCES

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Senator Carson, Representative Tucker, and members of the Committee, I am Carole Cifrino of the Bureau of Remediation and Waste Management, Division of Materials Management at the Department of Environmental Protection, speaking in strong support of L.D. 1431.

A large portion of the current municipal waste stream is comprised of various types of consumer packaging. Much of it is not recyclable. Packaging that is readily recyclable has historically been managed to some extent through Maine's existing recycling

system, which is a combination of public and private enterprises. However, shifts in international markets for recyclables during 2018 have shown the vulnerability of these programs to commodity price changes and the need for investment in recycling infrastructure. The stable funding provided by an extended producer responsibility (EPR) program for packaging can shield municipalities from the volatility in costs when recycled material values drop, as occurred in 2018. An EPR program for packaging can be designed to provide incentives for producers to increase the recyclability of their packaging, to galvanize investment in Maine's recycling infrastructure, and to relieve municipalities of much of the financial burden of dealing with this waste stream.

As noted in the Department's 2019 *Annual Product Stewardship Report*, packaging meets 4 of the criteria delineated in Maine's *Product Stewardship* framework law for identifying candidate products that may be best managed through new extended producer responsibility programs. As noted in this Resolve, an EPR program for packaging can be designed to increase the recovery of materials and to reduce costs to municipalities, with municipal savings in Maine projected to be in the vicinity of $16 million. EPR programs for packaging have been successful in other states or countries, including in 5 Canadian provinces and in Europe for 30 years, and current voluntary efforts have been proven to be insufficient, as we've witnessed municipalities curtailing and even eliminating their recycling programs in response to changing markets. Attached to this testimony is a copy of the discussion on packaging from this year's *Annual Product Stewardship Report*. It provides significant additional background and references demonstrating that packaging meets these 4 criteria for a new EPR program.

In addition, the 2019 *Annual Product Stewardship Report* highlights 2 critical decisions to be made when establishing a new EPR program for packaging:

1) the division of responsibilities between manufacturers and municipalities, and
2) incentives and disincentives to support the use of readily-recyclable packaging.

This Resolve ensures that these 2 policy issues will be addressed by directing that the program proposal be designed to provide financial support to municipalities for the costs they incur in managing packaging and with financial incentives so that producers' costs are directly related to the recyclability of their packaging.

By directing the Department of Environmental Protection to develop an EPR program for packaging and including clear parameters to be addressed in the design of the program, this Resolve provides a roadmap to make significant progress in building a stronger recycling system in Maine.

I encourage you to move forward with this Resolve. It provides a thoughtful approach to developing a strong EPR proposal designed to meet Maine's needs. EPR for packaging is key to maintaining a coherent, convenient, and consistent recycling system for a significant portion of Maine's municipal solid waste. Thank you for the opportunity to voice our support, and I will be happy to answer any questions that you may have.

Excerpt on Packaging from the Department of Environmental Protection's
January 2019 Annual Product Stewardship Report
to the Joint Standing Committee on the Environment and Natural Resources

IV.   Candidate products for new EPR programs

Maine's Product Stewardship Framework law identifies the following criteria for evaluating product stewardship as a mechanism to facilitate recycling:

A. The product or product category is found to contain toxics that pose the risk of an adverse impact to the environment or public health and safety;

B. A product stewardship program for the product will increase the recovery of materials for reuse and recycling;

C. A product stewardship program will reduce the costs of waste management to local governments and taxpayers;

D. There is success in collecting and processing similar products in programs in other states or countries; and

E. Existing voluntary product stewardship programs for the product in the State are not effective in achieving the policy of this chapter.

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A. Product stewardship for packaging

A large portion of the current municipal waste stream is comprised of various types of consumer packaging. Much of it is not recyclable. Packaging that is readily recyclable has historically been managed to some extent through Maine's existing recycling system, which is a combination of public and private enterprises. However, shifts in international markets for recyclables during 2018 have shown the vulnerability of these programs to commodity price changes and the need for investment in recycling infrastructure. Stable funding provided by extended producer responsibility can prevent high municipal costs and diversion of these resources to disposal when material values drop, as occurred during 2018.[1] An EPR program for packaging also can provide incentives for producers to increase the recyclability of their packaging and to use packaging that is more valuable at end of life, galvanize investment in Maine's recycling infrastructure, and relieve municipalities of much of the financial burden of dealing with this waste stream.

### 1) Packaging meets four candidate criteria for stewardship program

Product stewardship for packaging meets four of the five criteria outlined in the Framework Law – all but criteria A, products containing toxics.[2]

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[1] The average value of a ton of single stream recycling in Maine, as tracked by the Maine Resource Recovery Association, fluctuated between a value of $20/ton to a cost of $30/ton between 2007 and 2017 before dropping to cost of more than $100/ton in 2018.

[2] Nineteen states, including Maine, have laws governing toxics in packaging. For more information, see the Toxics in Packaging Clearinghouse website at https://toxicsinpackaging.org/ and Title 32 Chapter 26-A, Reduction of Toxics in Packaging.

Criteria B: Increase the recovery of materials. Alleviating economic pressure on municipalities would prevent moves away from recycling caused by market downturns like that experienced during 2018. In addition, the incentives provided by product stewardship can help change the make-up of this stream. Currently, much packaging is not readily recyclable and therefore is destined for disposal. Examples of packages that are not practical to recycle include plastic pouches, multilayered materials, and packages made from commonly recycled materials like PET that can't be processed by the recycling system because of issues with their wrappers or shapes and sizes[3]. To support the development of a sustainable "circular economy", there is a need to design packaging with recycling in mind.[4]

Criteria C: Reduce the costs of waste management to local governments and taxpayers. Packaging is a large material stream, only part of which is readily recyclable. Packaging that is not readily recyclable is being disposed of as municipal solid waste. The portion of the stream that is readily recyclable can also be problematic. Although recycling of some packaging streams has long been promoted as a way to lessen the burden of waste management costs on municipalities or even as a money maker, recycling costs for packaging rose sharply in 2018 when China stopped accepting bales of plastic and fiber recyclables due to contamination. Municipal transfer stations and the companies that manage these materials found themselves unable to move some materials or only able to do so at a cost. Single-stream programs increased their fees,[5] while source separated programs stopped recycling certain material types. The lack of data on packaging generation and

Figure 3 - Average annual value of one ton of single stream recyclables delivered to Portland
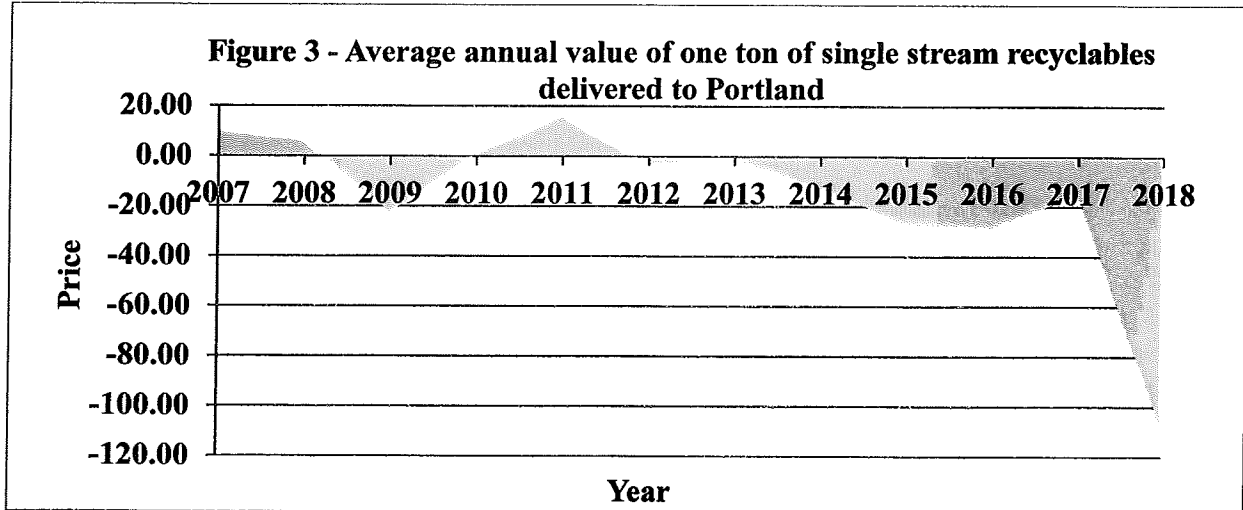
municipal recycling and disposal costs makes price estimates of the amount of municipal resources spent handling packaging difficult to come by. That said, triangulating a variety of imperfect estimates can provide a rough idea of the amount of money spent.

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[3] "APR Design Guide for Plastics Recyclability", The Association of Plastics Recyclers,
https://plasticsrecycling.org/apr-design-guide/apr-design-guide-home
[4] *The New Plastics Economy – Catalysing Action*, Ellen Macarthur Foundation, 2017
https://www.ellenmacarthurfoundation.org/assets/downloads/New-Plastics-Economy_Catalysing-Action_13-1-17.pdf
[5] Data for Figure 3 courtesy of Victor Horton, Maine Resource Recovery Association, October 29, 2018, "Single stream spot market pricing paid in Maine delivered to Portland; for contract pricing add $2-5/ton"

- Using Maine tons of municipal solid waste generated in 2017[6] and applying percentages of packaging materials found in the University of Maine's 2011 study[7] characterizing the makeup of Maine municipal solid waste provides an estimate of the amount of packaging disposed of as waste in 2017. This method yields an estimated 177,000 tons of material. If Maine municipalities spent an average of $90/ton[8] to transport and dispose of this material during 2018, they spent approximately $16 million. This $16 million estimate understates the actual cost to municipalities of managing packaging because it does not include the cost of separated recyclables, i.e., it is only the cost of managing packaging material that is thrown out with household trash.

- Using statistics on average per capita generation of packaging from Europe[9] and subtracting the amount of material handled through Maine's Bottle Bill[10] provides an estimate of approximately 194,000 tons of packaging handled through Maine municipalities annually. Once again, assuming Maine municipalities paid $90/ton to handle packaging either as trash or as recycling in 2018, the cost to Maine municipalities of managing packaging in 2018 was approximately $17.5 million.

- Using estimated costs in the Canadian province of Saskatchewan (which has 1.17 million people in 700 municipalities, 600 of which have fewer than 1000 residents), where the cost of handling packaging is around $14.5 million, annually[11] and prorating this cost for a population of 1.34 million yields an annual municipal cost of $16.6 million.

Criteria D: There has been success in other states or countries. Many European Union countries and five of Canada's provinces manage packaging through product stewardship programs. Years of successful implementation, per capita results, and municipal savings for each of the

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[6] Maine Department of Environmental Protection, "Maine Solid Waste Generation and Disposal Capacity Report for Calendar Year 2017", January 2019, shows 721,646 tons of municipal solid waste generate in Maine in 2017.

[7] Criner, George; Blackmer, Travis; "2011 Maine Residential Waste Characterization Study School of Economics Staff Paper #601", available here: https://umaine.edu/wp-content/uploads/sites/2/2017/04/2011-Maine-Residential-Waste-Characterization-Study.pdf, studied samples of municipal solid waste in Maine and identified the components, by material type. Using the total percentage of plastics other than "durable plastic items"; the percentages of "tin/steel containers", "redeemable aluminum beverage containers", "non-redeemable aluminum beverage containers" in the metals category; the total percentage of glass other than the "remainder/composite glass" and "flat glass"; and the percentages of "uncoated corrugated cardboard/kraft paper" and "remainder/composite paper", and half of the percentage of "other recyclable" paper, we obtained an estimate of the percentage of Maine's municipal waste stream composed of packaging waste of 24.5%.

[8] There is not good data to support this number; tonnages of packaging resulting from each method have been provided so that municipalities can easily adjust estimates to reflect their costs. The Maine Department of Environmental Protection, "Maine Solid Waste Generation and Disposal Capacity Report for Calendar Year 2017", January 2019, reports that tipping fees for municipal solid waste were between $40 and $85 during 2017, which does not include the cost of transportation. Figure 3 of this report shows the average cost of single stream recycling delivered to Portland at over $100/ton in 2018.

[9] Eurostat, "Packaging Waste Statistics", https://ec.europa.eu/eurostat/statistics-explained/index.php/Packaging_waste_statistics show the average European generated 166.3 kg or 366.6 pounds of packaging in 2015.

[10] 51,808 tons of material or 77.3 pounds per person were recycled through Maine's Bottle Bill program in 2017, which would leave approximately 290 pounds of packaging per person handled through the municipal waste stream.

[11] Steven Dribnenki, Saskatchewan Recycling, November 28, 2018: Saskatchewan recently studied program costs and updated payments to municipalities, increasing them to $8.7 million, which covers approximately 60% of the cost of a "reasonably run" program.

Canadian stewardship programs are presented below. Movement toward more sustainable packaging is hard to quantify based on available information, but there is an on-going pilot program in British Columbia testing the recyclability of flexible packaging collected at drop-off locations and there have been significant decreases in the use of plastic bags in Manitoba since the initiation of a government effort that has been facilitated by the Manitoba packaging stewardship organization.

Figure 4				
Per capita results of Canada's five EPR for Packaging and Printed Paper Programs				
PROVINCE	PROGRAM DURATION	PER CAPITA RESULTS	MUNI. SAVINGS	BOTTLE BILL MATERIAL*
Ontario	15 years	65 kg *recycled* *(2016)* **	Reimbursed 50% of recycling costs	Alcohol
Manitoba	9 years	71 kg collected (2017)	Reimbursed 80% of recycling costs	Beer
British Columbia	7 years	38 kg collected (2017)	Municipalities don't recycle	Non-milk
Quebec	5 years	93 kg collected (2017)	Reimbursed 100% of recycling costs	Beer and carbonated beverages
Saskatchewan	3 years	49 kg collected (2017)	Reimbursed 75% of recycling costs	Non-milk, non-nutritional supplements

*Bottle bill material is not collected through these programs so the breadth of a province's bottle bill influences the amount of material available for collection.
** Ontario's program reports on kg recycled per person, as opposed to kg collected; more material is collected than can be recycled. Ontario's most recent data is from 2016, not 2017.

Criteria E: Voluntary efforts are insufficient. Industry efforts to assist with the management of packaging include the Closed Loop Fund and The Recycling Partnership, which invest in recycling infrastructure and education at the national level. The city of Portland received a grant of $175,000 from The Recycling Partnership to help pay for new recycling carts in 2017.[12] The department is unaware of any other direct contributions by these organizations to recycling programs in Maine.

The Department estimates that 1 new FTE would be needed at the Department to oversee implementation of the program.

2) Key considerations in design of a packaging stewardship program

Maine's *Product Stewardship* framework law provides minimum requirements for new product stewardship programs. Review of the Canadian provinces' EPR programs for packaging reveals additional key aspects that should be considered when formulating legislation to establish a new packaging stewardship program. These include a) whether manufacturers are given complete financial and operational responsibility for establishing and maintaining recycling systems (full manufacturer responsibility) or share that responsibility with municipalities, and b) whether the enabling legislation includes incentives for the use of recyclable packaging and/or disincentives for the use of non-recyclable packaging.

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[12] Harry, David, *The Forecaster*, "Portland set to roll out covered recycling carts", July 31,2017, http://www.theforecaster.net/portland-set-to-roll-out-covered-recycling-carts/

a) Division of responsibilities between manufacturers and municipalities

Whether there is a division of responsibilities between municipalities and producers in packaging stewardship programs provides incentives for effective and efficient collection and recycling, streamlining of operations, and the free market economics of the recycling industry. Canada's existing product stewardship laws governing packaging differ in the level of financial and operational responsibility given to each group. For example, British Columbia assigns manufacturers full responsibility while Province Quebec implements a program of shared responsibility. If responsibilities are shared, legislation establishing the EPR system must delineate the division of financial and operational responsibilities.

Proponents of a system in which a producer organization has full financial and operational responsibility for recycling point to the opportunity for efficiencies that such a system provides. If one entity manages the recycling of all packaging (including control of the collection system), the collection system and educational programs can be standardized; fewer, larger contracts can be written to reduce administrative costs; and the single entity managing recycling has much more control over market price than do a larger number of smaller entities[13]. If managed well, the streamlining afforded by full producer responsibility for operations could lead to lower system costs, though the limited available data from North America does not show this to be the case.[14]

Proponents of a shared responsibility system cite the advantages of maintaining diverse recycling systems as the maintenance of free market forces in the industry and the avoidance of stranded investments in the existing system. Competition in a free market correctly sets prices, leads to innovation, and drives efficiency and effectiveness elsewhere in the economy. Distributed end-of-life management of post-consumer packaging also ensures that, once recycled, these resources are available at market prices rather than having the price controlled by a single entity.

Maintaining municipal control of recycling also minimizes disruption of current waste management, allowing municipalities to continue collecting and sorting material as they see fit and avoiding the stranding of investments and excessive consolidation in the recycling industry that may be experienced if operational responsibility for recycling of packaging was removed

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[13] Recycle BC runs the only North American packaging stewardship program that gives producers responsibility for recycling operations. A common comment from local government stakeholders during the revision of Recycle BC's stewardship plan is that incentive payments made by the stewardship organization to collectors are insufficient. For instance, the City of Vancouver receives an incentive of $66 per ton for recycling collected for Recycle BC at its depots, while Recycle BC's own cost study pegs the per ton cost of recycling through a depot at $301 per ton. Because Recycle BC is the only buyer, it has a lot of power to influence the price. Data from, Recycle BC, "Consultation Report on Revised Packaging and Paper Product Extended Producer Responsibility Plan", October 2018.

[14] Recycle BC performed a cost comparison of pre-program costs (2012 data) and costs 5 years into the program (2017). This cost study uses a limited sample size but is the best data available to compare costs under a free-market vs. stewardship run recycling system. Results show that the range of kilograms of packaging diverted for recycling per household has shifted downward for both curbside and multifamily collections (from 48-270kg/household to 42-200kg/household using curbside and from 73-136 kg/household to 67-91kg/household using multifamily collection); the change in quantity collected using depots is not reported. Cost data shows a 6% increase in cost per household for curbside collection, a 11% increase in cost per household for multifamily collection, and a 79% increase in cost per ton at depots. Cost savings were realized in the areas of education and administration (39% and 62%, respectively), but these costs make up a much lower percentage of total program costs than do the costs of collection ($1.50/household on education, $1.60/household on administration, $43/household on curbside collection, $23/household on multifamily collection, and $301/ton on depot collection). Data from, Recycle BC "Packaging and Paper Product Collection Costs Five Year Cost Study Refresh", June 8, 2018.

from municipal MSW management systems. This type of system design dovetails with Maine law that assigns each municipality responsibility for providing for management of MSW generated within the municipality (see 38 M.R.S. § 1305.1). However, in such a shared responsibility system, municipalities and their recycling service providers must be willing to share information with producers to ensure transparency in costs and accountability for ensuring materials are recycled.

Division of financial responsibilities: incentives for *efficient* collection and recycling.
Careful division of financial responsibility in legislative design can promote efficient collection and recycling systems. If producers are financially responsible for the recycling of packaging yet municipalities have operational control of their recycling programs (i.e., producers pay municipalities for their costs of recycling packaging), system requirements should include incentives for municipalities to operate efficiently. Existing Canadian programs in which municipalities have operational control over recycling do this by tying municipal costs to producer costs, defining what constitutes an efficient program, and providing municipalities with extensive producer assistance. For example, defining reimbursable municipal costs as the average regional cost of municipal recycling rather than each municipality's actual costs results in municipalities with higher-than average costs bearing the cost of their premium operations. Conversely, municipalities with lower-than-average costs receive a premium for their efficient operations. This incentivizes cost-efficient municipal operations and dis-incentivizes premium operations.

The legislative design of a shared responsibility system can also promote efficiency by giving producers the ability to lower their program costs by managing their own recycling plans. Producers want, and should have, the opportunity to provide new or improved recycling options for their packaging (some producers already provide for recycling of their packaging).[15] Legislation can support the creation of new, and maintenance of current, producer recycling operations by providing producers the ability to offset their financial responsibility for material they place on the market by collecting and recycling that material through their own programs. For instance, every pound of plastic bags a producer collects may offset a pound of plastic bags it marketed and the amount the producer would pay into the system. If a producer collects as many pounds of plastic bags as it markets, it would not need to pay into the system. With this design, if a material is not being handled efficiently by municipal recycling programs, producers have the incentive and the ability to create an alternative management system.

Division of operational responsibilities: incentives for *effective* collection and recycling.
In systems where municipalities are operationally responsible for recycling, when a municipality recycles more, it pays less for trash disposal. When combined with a system that incentivizes municipalities to recycle better as described above, municipalities have strong incentives to recycle as much material as possible, as well as possible.[16] Conversely, in systems where a

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[15] Letter to Elena Bertocci, Maine DEP, from Calla Farna, Vice President Corporate Affairs, Canadian Stewardship Services Alliance, December 11, 2018.
[16] Recycle BC runs the only North American packaging stewardship program that gives producers responsibility for recycling operations. The Recycle BC program is criticized for its extensive limitations on eligibility for participation. Local governments and First Nations note that collection could be expanded if Recycle BC would loosen population and process restrictions that prevent many smaller, more rural communities from participating. Complaints include an inability to drop off recycling even if a community that is not served by Recycle BC is willing to pay a hauler to bring its material to an existing Recycle BC depot. Recycle BC, "Consultation Report on Revised Packaging and Paper Product Extended Producer Responsibility Plan", October 2018.

producer or group of producers operate the only collection system, they pay more as their collection increases (other than when the material is worth more than the cost of processing and transportation).[17] In this case, the responsible entity (producer) has an incentive to collect as little recycling as is allowable under the law and to recycle only to the extent the law requires. A legislative design that maintains municipal control over municipal recycling operations incentivizes effective collection for recycling.

b) Incentives and disincentives to support the use of readily-recyclable packaging

Legislation establishing EPR for packaging should include incentives that promote the design and use of packaging that can be efficiently collected and reused or recycled. Whether the legislation requires full producer responsibility or establishes a shared responsibility system, it can incentivize the use of readily recyclable packaging by calibrating financial responsibility based on the cost to recycle the packaging material as well as the amount of packaging a producer sells into Maine. Producer costs for packaging that has a positive recycling value (taking into account the cost of processing and transportation) could be limited to simply providing support for consumer recycling education.

A shared responsibility system can be designed to provide producers with additional incentives to create new opportunities for recycling materials that currently are not readily recyclable. One mechanism to accomplish this is to require producers to reimburse municipalities their costs of disposal for packaging materials that are not readily recyclable in Maine. This eliminates any incentive to switch recyclable materials packaging, which may carry a cost in the system, to non-recyclable. It also creates a financial incentive for producers to develop recycling processes and/or infrastructure to increase the types of packaging that are readily recyclable. For example, although systems do not exist today for recycling multi-laminate pouches, producers may help support the development of new recycling processes and the subsequent establishment of nearby infrastructure to make multi-laminate packaging readily recyclable in Maine.

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[17] Recycle BC runs the only North American packaging stewardship program that gives producers responsibility for recycling operations. According to page 9 of its 2018 Packaging and Paper Product Extended Producer Responsibility Plan, "Recycle BC offers financial incentives to qualified collectors. These incentives are designed to provide collectors near-by with sufficient incentive to collect the amount of PPP required by Recycle BC to meet its targets." "Packaging and Paper Product Extended Producer Responsibility Plan", Recycle BC, October 2018 revision. As could be anticipated, considering the incentives and this statement, the program's recovery rate dropped in 2017 after passing the mandated minimum in 2016.

Resolve, To Support Municipal Recycling Programs

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5. Provide for the establishment of a nonprofit stewardship organization of producers of packaging to support the State's municipal solid waste management programs. The agreement establishing the stewardship organization must require producers to:

A. Cover at least 80% of the cost of recycling packaging material sold in the State that is ~~required to be recycled~~ not readily recyclable;

B. Provide per capita reimbursement payments to municipalities for nonrecyclable packaging to help municipalities cover the cost of packaging needing disposal; and

C. Invest in waste reduction and recycling education and infrastructure;

6. Require that the stewardship organization establish an equitable funding scheme among covered producers that encourages better packaging design in which:

A. Producers pay higher fees for packaging materials sold into the market that are not readily recyclable, are made of multiple materials or are toxic, in order to discourage the creation of materials needing disposal; and

B. Producers pay lower fees for packaging materials sold into the market that are of higher value reusable components and that contain higher percentages of recycled content to ensure that the stewardship program supports a strong recycling economy;