MAINE STATE LEGISLATURE

Report to the Joint Standing Committee on Environment and Natural Resources
128th Legislature, First Session

Implementing Product Stewardship in Maine

February 2017

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I. EXECUTIVE SUMMARY

This report is prepared in accordance with 38 M.R.S. §§ 1771 through 1776, Maine's *Product Stewardship* framework law. This law requires the Department of Environmental Protection ("Department" or "DEP") to annually develop a report for the Legislature that includes an evaluation of the performance of existing product stewardship programs, and recommendations for improvements and/or new programs consistent with the minimum standards contained in the law.

Product stewardship laws that mandate some level of manufacturer (producer) responsibility for proper product management at the end-of-life are known as extended producer responsibility (EPR) laws. EPR relieves the public sector of some of the burden of managing products at their 'end of life'. Through the enactment of several laws, first starting in 1994, Maine has mandated end-of-life management responsibilities for manufacturers of rechargeable batteries, mercury vehicle switches, consumer electronics, mercury thermostats, mercury lamps (light bulbs), and architectural paint. In addition, since 1978, manufacturers, distributors and retailers of most non-dairy beverages are required to participate in Maine's container redemption program to support reduction of roadside litter and the recycling of beverage containers.

Each of Maine's product stewardship programs were conceived and developed in response to identified, documented or perceived needs and threats. These included: a) the blight of litter on Maine's landscape, b) environmental contamination by mercury resulting in fish consumption advisories for Maine's vulnerable populations, and c) the ever-increasing expense to municipalities of managing discarded consumer products that contain toxics which threaten public health and the environment if improperly managed.

Table 1 provides performance measures of each of Maine's EPR programs, as well as a summary of recommendations for changes to each program, if any.

Maine's *Product Stewardship* framework law requires the Department to solicit and collect public comments on the content of the report for 30 days prior to submittal to the Legislature, and to append all comments received to the report. Upon submittal, this report provides the Joint Standing Committee on the Environment and Natural Resources (ENR) with a status check on Maine's current product stewardship programs, and information from a variety of perspectives on proposals for improvements or additional programs.

Table 1 - Summary of Product Stewardship Programs' Performance

Product	Performance measure 2015	Estimated environmental benefit
Beverage containers	Recycling estimates:[1] • **26,000 tons glass** • **5000 tons aluminum** • **7,100 tons plastic**	Clean landscape - containers subject to deposit are not littered or do not remain as litter.
Rechargeable batteries	Number of active collection sites in Maine - **250**	34,965 pounds of materials recycled and diverted from disposal
Mercury auto switches	Percent switches from end-of-life vehicles recycled – **4%**	Estimated pounds of mercury release prevented: 2015 – 1.2 pounds Since 2003 – 117.3 pounds
Consumer electronics	Pounds per capita recycled – **9.2 pounds per capita**	6,328 tons recycled
Mercury thermostats	Percent of available thermostats recycled – **28.6%**	Estimated pounds of mercury release prevented: 2015 – 35 pounds Since 2001 – 445 pounds[2]
Mercury lamps	Percent of available lamps recycled – **Manufacturers – 12.0%** **Overall – 33.71%**	Estimated pounds of mercury release prevented: Manufacturers – 15.9 pounds Overall – 44.6 pounds
Architectural Paint	Percent population within 15 miles of a permanent collection site – **93.5%**	88,712 gallons latex and oil-based paint collected for recycling and fuel blending

[1] Returnable Services telecom with MEDEP 12/6/16 - estimate based on Container Redemption program experience

[2] Assuming an average of 3.1 grams per thermostat

II. Introduction

The Maine Department of Environmental Protection (Department) is submitting this report in accordance with 38 M.R.S.A. § 1772(1), *Product Stewardship*. This law requires the Department to provide an annual update on the performance of existing product stewardship programs, a discussion of any additional products or product categories that when generated as waste may be appropriately managed under a product stewardship program, and recommendations for new product stewardship programs or revisions to existing programs. Maine currently has six extended producer responsibility laws (i.e., mandated product stewardship for manufacturers) that require producers to establish collection and recycling programs for their products. These include: dry mercuric oxide and rechargeable batteries, mercury auto switches, electronic waste, mercury thermostats, mercury lamps, and architectural paint. In addition, Maine's product stewardship law for cellular telephones requires cell phone retailers to collect and recycle unwanted cell phones.

Similarly, manufacturers, distributors and retailers of most beverages are required to participate in Maine's beverage container redemption program to support recovery and recycling of those containers. All these programs are aimed at minimizing the negative health, safety, environmental and social impacts of these products when they are no longer wanted by the consumer, and at supporting the recycling of product materials into new products when appropriate. As resources allow, the Department works collaboratively with manufacturers to educate consumers and collection sites to support effective and efficient implementation of Maine's EPR laws.

In addition, Maine has other product stewardship laws that do not include an EPR mandate. These include Maine's cellular telephone recycling law, which requires retailers of cellular telephones to offer free recycling of unwanted cell phones, and Maine's mercury product laws that require manufacturers of mercury-added products to provide a tri-annual notification of the amount of mercury currently used in each of its mercury products, and to label these products so consumers know to recycle them at the product's end of life. The mercury product notifications provide state policy makers and staff with information to help target additional efforts to prevent releases of mercury to the environment. Data from this reporting can be viewed at the Interstate Mercury Education and Reduction Clearinghouse (IMERC) website.[3]

Each of Maine's product stewardship programs were conceived and developed in response to identified, documented or perceived needs and threats. These included the blight of litter on Maine's landscape, environmental contamination by mercury resulting in fish consumption advisories for Maine's vulnerable populations, and the ever-increasing expense to municipalities of managing materials from consumer products that could be recycled into new products. After enactment of several product stewardship laws, Maine's legislature developed 38 M.R.S. §§ 1771 through 1776, the *Product Stewardship* framework law. This framework law requires the Department to develop a report each year for the Legislature that includes an evaluation of the performance of existing programs, and recommendations for improvements and/or new programs consistent with the minimum standards contained in the law. It also requires the Department to solicit and collect comments on the content of the report for 30 days prior to submittal to the Legislature, and to append all comments received to the report.

[3] IMERC provides technical and programmatic assistance to 13 states and their regulated communities to streamline implementation of mercury reduction laws.

Table 2 – Primary Aspects of Maine's Extended Producer Responsibility Programs

Product	Statute	Year imple-mented	Who participates	Funding mechanism	Disposal ban?	Annual fees paid to DEP
Beverage containers	38 M.R.S. § 3101 et seq.	1978	Anyone	initiators of deposit internalize costs*	No	Label registration and licensing fees
Rechargeable batteries (nickel-cadmium and sealed lead acid only)	38 M.R.S. § 2165	1994	Manufacturers provide recycling for government agencies, and industrial, communications and medical facilities	manufacturers internalize costs	Partial	No
Mercury auto switches	38 M.R.S. § 1665-A	2003	Manufacturers, end-of-life vehicle handlers	manufacturers internalize costs	Yes	No
E-waste (Consumer products with video displays > than 4", desktop printers, game consoles)	38 M.R.S. § 1610	2006	Households, small businesses, K-12 schools	manufacturers internalize costs	CRTs, flat screens containing mercury	Manufacturers pay annual registration fee
Mercury thermostats	38 M.R.S. § 1665-B	2007	Anyone	manufacturers internalize costs	Yes	No
Mercury lamps	38 M.R.S. § 1672	2011	Households only	manufacturers internalize costs	Yes	No
Architectural paint	38 M.R.S. § 2144	2015	Households, businesses other than large quantity generators of oil-based paint waste	consumer pays fee at point of sale	No (paint must be solidified)	Manufacturers pay actual DEP program costs

*Cost internalization = costs included in pricing of product; no visible "recycling" fee at sale

III. Existing programs' performance and recommendations

A. BEVERAGE CONTAINER REDEMPTION PROGRAM – 38 M.R.S §§ 3101 - 3117

Program description: Maine's Beverage Container Redemption, or "Bottle Bill", Program was implemented in 1978. The program was originally administered by the Department of Agriculture, Conservation & Forestry (DACF) until November 2015 when that authority was transferred to the Department. This law requires the producers and distributors of covered beverages to charge a deposit in conjunction with the sales of their beverages to encourage the return of the empty container by providing the consumer a refund of that deposit when the beverage container is returned. These beverage containers are then processed for recycling, keeping these containers out of the environment and disposal facilities. The system includes label registration (to ensure redemption values are clearly marked, and to identify the parties responsible for each beverage container), licensing of redemption centers, and payment of a handling fee for each container managed at a redemption center by the initiator of the deposit.

Current performance: The Department is unable to provide a quantitative assessment as to the performance of the program since there is no requirement for all beverage manufacturers to report annual product sales and redemptions claimed. The Container Recycling Institute estimates that 80-90% of covered beverage containers sold in Maine are redeemed for deposit.[4] It is estimated that the following quantities of container materials were recycled through the container deposit program in 2015:

- Glass – 26,000 tons
- #1 & #2 Plastics – 7,100 tons
- Aluminum – 5,000 tons[5]

Discussion: During the first year administering the program, the Department's primary objective was to ensure a smooth transition through utilizing label registration, redemption center licensing, and compliance protocols established by DACF. To ensure systems met financial auditing standards, the Department integrated redemption center licensing processes with the State's 'Advantage' accounting system. Department staff also worked with staff from the Maine Revenue Services (MRS) to assess and improve compliance with MRS unclaimed deposit reporting requirements, and with the Bureau of Alcoholic Beverages and Lottery Operations (BABLO) to conduct outreach resulting in improved compliance with product registration requirements.

As a result, in 2016 the Department processed over 36,000 beverage container label registrations (a 10% increase from the previous year), licensed over 500 redemption centers and over 200 initiators of deposit, and assisted over 200 small retailers in transitioning from licensing as redemption centers to a no-cost alternative compliance option. In addition, the Department has engaged InforME to develop an on-line product label registration portal that will work in conjunction with BABLO's product registration portal to provide one-stop services for manufacturers and distributors of liquor products in Maine.[6]

In 2017 the Department plans to continue refining and targeting program activities to improve the sharing of information and continue to improve compliance. These activities include:

- completion of development of an all-inclusive on-line label registration system;
- rule-making to clarify responsibilities and streamline label registration requirements;
- increase compliance assistance to redemption centers and beverage manufacturers; and,
- increasing the efficiency of the redemption center network across Maine.

[4] Container Recycling Institute "Beverage Container Recycling Rate by State, March 2015 Update"; available at: www.container-recycling.org/images/stories/PDF/Beverage%20Container%20Recycling%20Rate%20March%202015%20Update.pdf, accessed December 5, 2016.

[5] Returnable Services telecom with DEP 12/6/16 - estimate based on Container Redemption program experience

[6] InforME is a public/private partnership formed as a result of the 1997 InforME Electronic Access to Public Information Act to create "a portal network to public information"; it provides an "Internet gateway for businesses and citizens to interact with government electronically".

B. RECHARGEABLE BATTERIES – 38 M.R.S. § 2165

Program description: Manufacturers of nickel cadmium and small sealed lead acid batteries must provide recycling services at no cost to government agencies, and industrial, communications and medical facilities, which are required to recycle these batteries.

Current performance: In 1996, battery manufacturers established the Rechargeable Battery Recycling Corporation, now known as Call2Recycle, to offer free rechargeable battery collection and recycling to any business or government entity. In 2015, there were 130 retail, 82 government and 38 private business locations across Maine that actively participated in the program. Call2Recycle voluntarily reported that Maine participants collected and recycled 34,965 pounds of all types of rechargeable batteries (nickel cadmium, lithium ion, nickel metal hydride and sealed lead acid) in 2015 (a slight increase from the 33,210 pounds collected in 2014). Since reporting of sales is not required, it is not possible to assess what percent of rechargeable batteries this represents.

In recent years, Call2Recycle has reported an increase in the cost of "free riders" in its battery recycling program. "Free riders" are primary and rechargeable battery manufacturers whose products are collected and recycled by Call2Recycle, but who do not pay for the recycling of their batteries. U.S. manufacturers (e.g., Duracell, Energizer, Stanley Black & Decker, Samsung, Dell and HP) that support the Call2Recycle program are paying a cost not borne by the manufacturers (often overseas) who profit from placing the batteries into commerce.

In 2016, the Maine legislature considered a proposal to institute a mandatory extended producer responsibility program for all consumer batteries (rechargeable and primary, a.k.a. "single use") as Section 1 of LD 1578, *An Act to Update Maine's Solid Waste Management Laws*. This proposal was originally developed by battery manufacturers and recyclers. The Environment and Natural Resources (ENR) Committee then amended the proposal to align with Maine's *Product Stewardship* framework law and to address concerns of the automotive industry (by exempting key fobs). LD 1578 ultimately failed in favor of LD 313, *An Act to Create a Sustainable Solution to the Handling, Management and Disposal of Solid Waste in the State*, a bill that included identical provisions exclusive of the consumer battery stewardship proposal.

Discussion: Following the guidance of Maine's *Product Stewardship* framework law, the Legislature may want to review last year's consumer battery stewardship proposal contained in LD 1578 as amended by the ENR Committee. The amended bill would eliminate the burden of free riders currently placed on the existing rechargeable battery program.

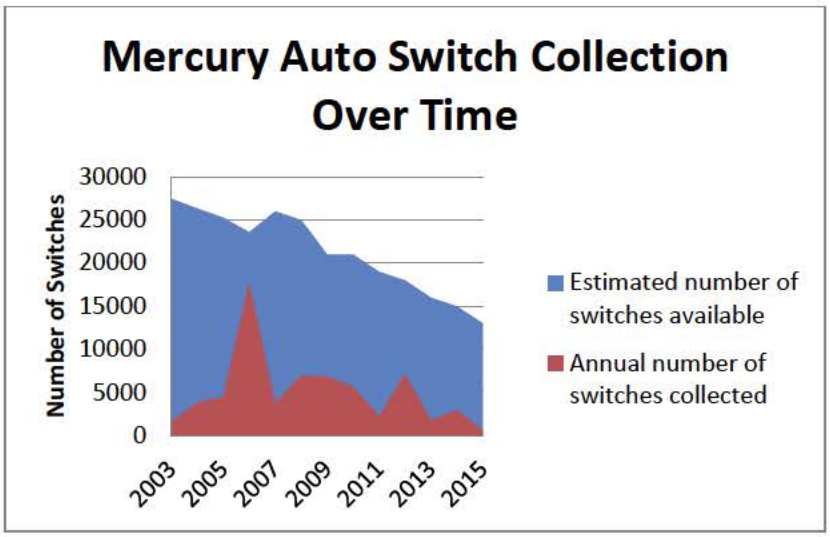
C. MERCURY AUTO SWITCHES - 38 M.R.S. § 1665-A

Program description: 38 M.R.S.A § 1665-A, was passed in 2001 and the program began in 2003. It requires end-of-life vehicle handlers to remove and recycle all mercury switches. The law also requires manufacturers to provide a free recycling system, including an incentive payment, if the person turning in the switches provides information on the vehicles from which the switches have been removed.

At the start, manufacturers provided a $1 incentive for each mercury auto switch delivered to drop-off locations in Portland and Bangor. In 2006, in response to manufacturer requirements that

Vehicle Identification Numbers (VINs) be provided with switches, the incentive was increased to $4 per switch. In 2011, the auto manufacturers changed the system for returning switches to integrate with a nationwide program administered by End-of-Life Vehicle Solutions (ELVS), a non-profit stewardship organization established by vehicle manufacturers. In place of the VIN, auto recyclers were asked to provide information on make, model, and year of the source vehicle, and switches are now returned via the shipping company FedEx. ELVS provides auto dismantlers with free buckets, shipping, and recycling and pays the $4 per switch incentive.

Figure 1 – Mercury auto switch collections in Maine over time



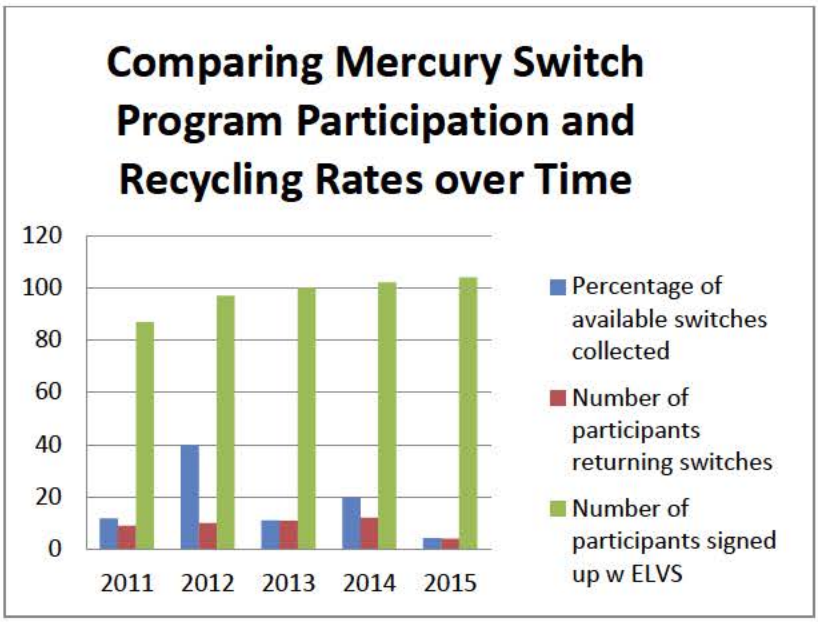
Current performance: In 2015, 563 mercury auto switches were recycled through the program, with only 4 different auto dismantlers sending in switches. This represents 4% of the switches estimated to have been available for recycling from end-of-life vehicles in 2015 in Maine. The National Vehicle Mercury Switch Recovery Program (NVMSRP) estimates that there will be 10,000 switches containing approximately 20 pounds of mercury in the cars that will be removed from service in Maine in 2017.[7,8] These estimates (which NVMSRP asserts underestimate the actual number of switches available[9]) suggest that the program has captured between 20 and 30% of the switches available since its inception. Department staff began outreach to end-of-life vehicle handlers in June 2016, and program performance through the first 3 quarters of 2016 shows significant improvement (1810 switches collected from 17 businesses).

[7] This weight number assumes an average of .035 g of mercury per switch, which is the calculation used by NVMSRP.

[8] National Vehicle Mercury Switch Removal Program, "Estimating Population of Mercury Convenience Light Switches", available at: http://elvsolutions.org/?page_id=1298, accessed October 31, 2016.

[9] National Vehicle Mercury Switch Removal Program, "Estimating Population of Mercury Convenience Light Switches", available at: http://elvsolutions.org/?page_id=1298, accessed October 31, 2016.

Figure 2 – Mercury auto switch recycling rates in Maine



Discussion: Auto recyclers noted to Department staff that that they have seen far fewer mercury switches of late, and that, as commodity prices have fallen, auto recyclers have scaled back their recycling businesses. Many end-of-life vehicle handlers had been unsure how to participate in the program since the collection system changed from drop-off to FedEx return: some had not turned in switches since the change, while others had turned in an initial bucket and then been unsure of how to proceed. ELVS does not automatically send new buckets to participants; they must be ordered online or over the phone. Fortunately, many of these individuals have continued to pull and collect mercury switches, and the Department is seeing an increase in the recycling numbers for 2016 as those stored switches are turned in following contact from the Department.

Moving forward, the Department will continue to reach out to entities that have not sent in mercury switches for recycling in the past three years. The Department also plans to contact other auto recyclers registered with the Maine Bureau of Motor Vehicles (BMV) that have not signed up with the program. Concerted efforts will be made by the Department to identify mobile car crushing companies and initiate or improve their participation in the program, and to ensure permanently-located crushers are operating in compliance with the law by removing switches before crushing.

D. CONSUMER ELECTRONICS - 38 M.R.S. § 1610

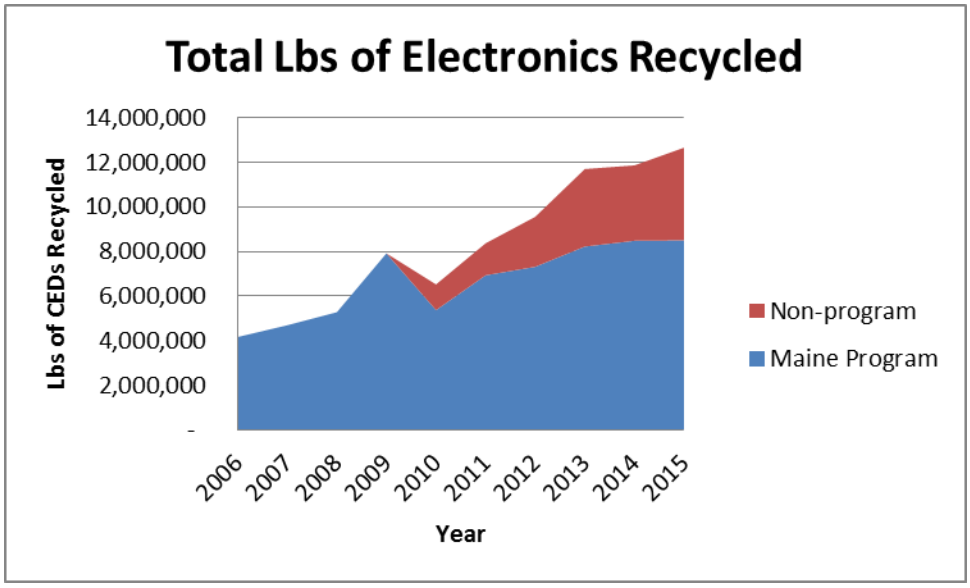
Program description: Maine's Electronic Waste law establishes a "shared responsibility" system for the recycling of consumer electronics with video display screens that are greater than 4 inches measured diagonally and that contain one or more circuit boards (computer monitors, laptops, tablets, digital picture frames, televisions and portable DVD players; cellular telephones are addressed in 38 M.R.S. § 2143), desktop printers and game consoles generated as waste by households, small businesses, and K-12 schools. In Maine's program, municipalities and businesses that have been approved by the state as electronic waste consolidators, and other entities, provide

convenient collection sites for consumers. After collecting a pre-determined quantity of covered devices, the collection sites work with consolidators who pick up the devices, sort them, and send them to be recycled. Manufacturers are responsible for the cost of consolidation, processing, and recycling of covered electronic devices (CEDs) as invoiced by the approved consolidators. To comply with Maine law, manufacturers must complete annual registrations and pay assigned recycling costs.

Recycling costs are assigned in one of two ways, depending on product type. The costs of consolidation, processing, and recycling televisions, game consoles, and portable DVD players are assigned to manufacturers based on total U.S. market share by weight. Computer monitors, laptops, tablets, digital picture frames, and desktop printers are individually counted and weighed by state-approved consolidators so that manufacturers pay for the recycling of their own products as these products show up in the waste stream. Rather than having the consolidators recycle their products, manufacturers of these types of CEDs can opt to pick up their products from consolidators and recycle them on their own. The cost of recycling "orphan" products, for which the state can assign no responsible party or successor in interest, is divided among registered manufacturers according to their proportion of the total weight of products recycled in a given year.

Current performance: Since Maine's *Electronic Waste* law was passed in 2005, over 82 million pounds of CEDs have been collected and recycled; about 67 million of those pounds were recycled through the state program; the rest were non-covered products (e.g., desktop computers, peripherals), or collected by voluntary initiatives such as the Dell-Goodwill Re-Connect partnership.[10] In 2015, Mainers recycled 12,655,691 pounds of electronics, or about 9.5 pounds per person, up from 8.9 pounds per person in 2014. The Maine law has succeeded in providing a consistent recycling service to citizens throughout the state.

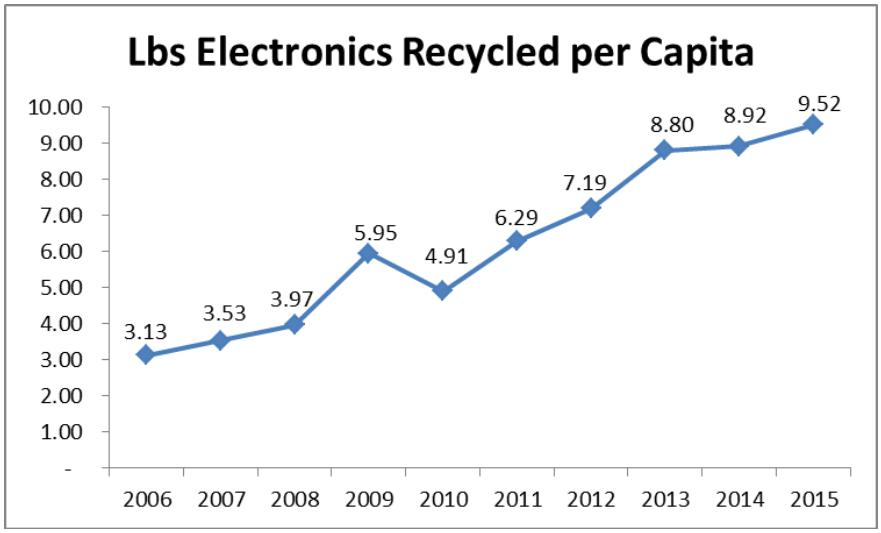
Figure 3 – Total pounds electronics recycled in Maine 2006 – 2015[11]



[10] See http://www.dell.com/learn/us/en/uscorp1/corp-comm/us-goodwill-reconnect?c=us&l=en&s=corp.

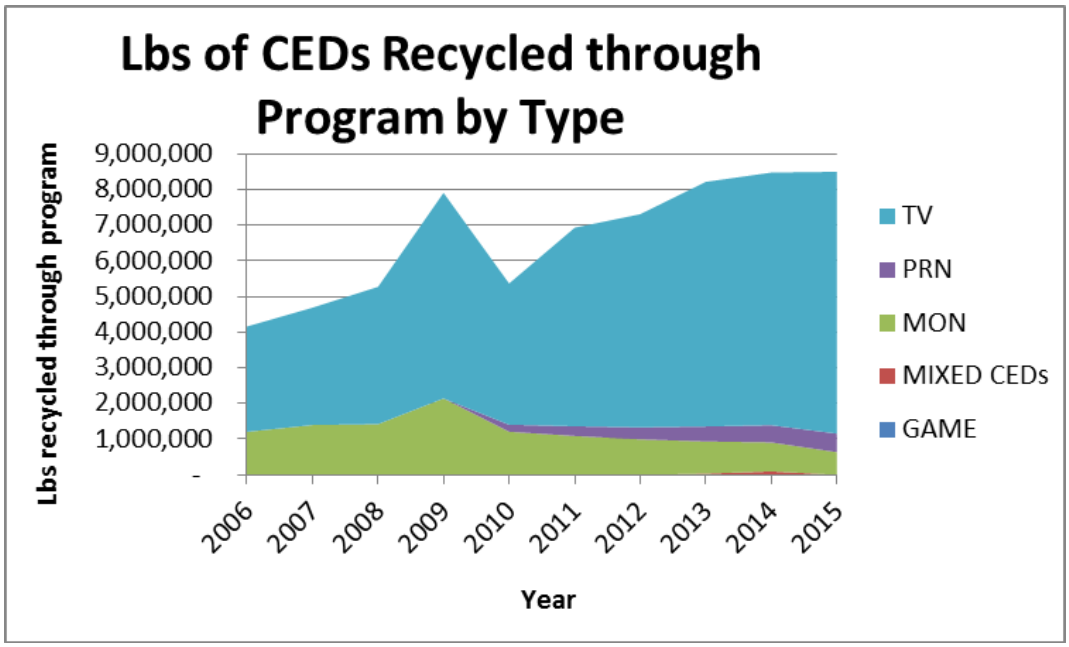
[11] The uptick in 2009 was likely due to consumer replacing old TVs to accommodate the conversion of broadcast TV to digital format.

Figure 4 – Pounds of electronics recycled per capita in Maine



The total pounds of covered electronic devices recycled appear to be leveling off. At least part of this leveling is likely due to a decrease in the weight of the units being recycled. In 2010, the average piece of computer equipment received by the program weighed 31.8 pounds; in 2015 the average weight was just 21.9 pounds. This change reflects the move away from CRT monitors/TVs to flat panel monitors/TVs, and toward smaller, portable devices.

Figure 5 – Pounds of electronics recycled by device type



TV = television; PRN = desktop printer; MON = monitor, including laptops & tablets; MIXED CEDs = mixed covered electronic devices; GAME = game consoles

Generally, as residents become more aware of the availability of a recycling program, participation increases. However, information evaluating awareness of Maine's e-waste recycling program has not been collected, so the extent to which full program penetration plays a part in the leveling off trend described above cannot be appropriately evaluated.

Discussion: As outlined above, in the IT product portion of the program, manufacturers are responsible for covering the recycling costs associated with the management of their own products along with a share of orphan products based on that amount, while the television and game console portion of the program assigns recycling costs using national market share. Initially, the entire program used 'return share'. Television and game console manufacturers asked for a switch to 'market share'. Long-established manufacturers found themselves at a disadvantage in pricing their products in a market with very slim profit margins in comparison with new manufacturers that did not yet have to pay to recycle old products. This imbalance in costs was also exacerbated as some producers of old-style CRT televisions went out of business,[12] leaving heavier orphan shares to be split between the remaining entities.

Currently the Department spends significant time tracking a few, often historic, IT manufacturers that do not realize they still need to register, either because they remain responsible for their historic product in Maine's waste stream or because they are no longer trying to sell products, have no real incentive to do so. Staff also spends time trying to determine responsibility for a brand through a maze of acquisitions, mergers, and sales. Meanwhile, consolidators are required to individually handle every IT product, weighing and recording the brand name of each one. In the market share system, manufacturers with less than one tenth of a percent (0.1%) market share have no recycling costs. With return share, consolidators invoice even the smallest participants, sometimes for the cost of recycling one product at a time. Consolidators have reported that their prices for the standard recycling plan would decrease by between 3 and 9 cents per pound with a switch to market share-based billing of IT manufacturers.

To increase efficiency in the handling of CEDs and decrease the need for Department enforcement actions, the Department recommends the Legislature consider changing the basis on which IT product manufacturers are billed for recycling costs from return share to market share. This change would align Maine's program more closely with other states' programs, eliminating a cause for confusion for manufacturers seeking to comply with multiple differing state laws.

E. MERCURY THERMOSTATS - 38 M.R.S. § 1665-B

Program description: When improperly disposed of and not recycled, mercury thermostats are one of the major contributors to mercury releases to Maine's environment. Maine's *Mercury-added Thermostats* law, 38 M.R.S. § 1665-B, enacted in 2005, established extended producer responsibility for the collection and recycling of mercury-added thermostats. This included payment of a $5 incentive for each mercury thermostat returned for recycling beginning in 2007.

[12] EPA, "Current Understanding of the CRT Landscape by the Electronics Recycling Community", September 2014, available at: https://www.epa.gov/sites/production/files/2016-03/documents/epacrtdoc.pdf

The EPR program is implemented by the Thermostat Recycling Corporation (TRC), an independent non-profit established by members of the National Electrical Manufacturers Association (NEMA) to provide a nationwide mechanism for mercury-thermostat collection and recycling. There are two different incentive payment systems. Retailers voluntarily participating as collection sites provide an in-store $5 coupon for each mercury thermostat turned in by their customers. The retailer then invoices TRC for $5.00 per thermostat when returning the thermostats to TRC. Heating, ventilating and air conditioning (HVAC) wholesalers are required to participate as collection sites. Until late in 2016, that collection system required individuals utilizing HVAC wholesaler collection sites to fill out and mail a coupon to TRC for each mercury thermostat they turned in. Individuals now can fill in just a single form when turning in multiple thermostats. TRC only mails out the incentive payments once the HVAC wholesaler returned the collected thermostats.

In 2015, TRC education and outreach efforts specific to the Maine program included in-person site visits to 34 collection sites, and phone outreach to 31 collection sites. Other Maine-specific promotions by TRC included:

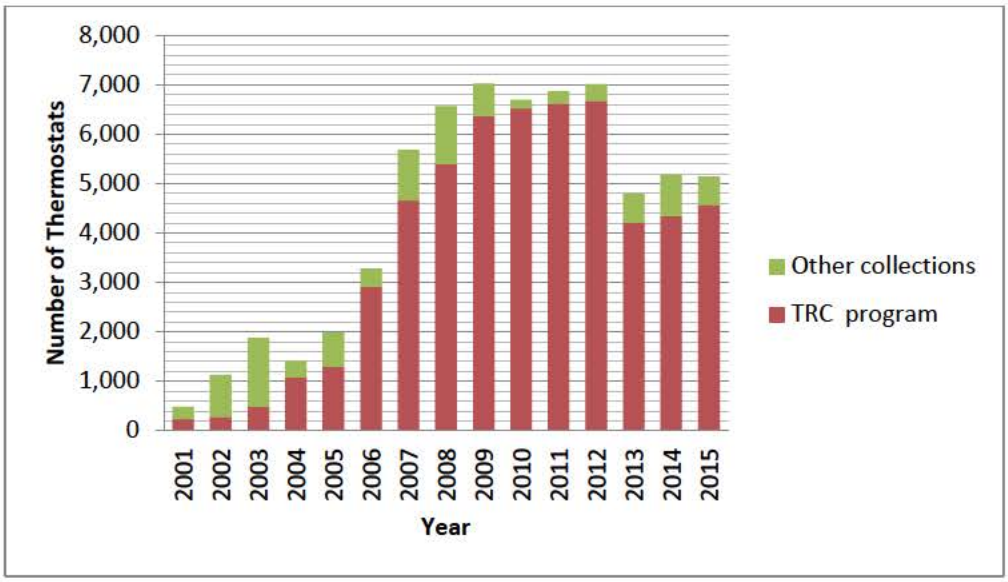
- Half page ad in *Uncle Henry's* each week during November 2015
- 15-second ad to promote $5 incentive on *Uncle Henry's Talking Deals* radio station - one per week during November
- Google Adwords campaign
- 221 postcard reminders to collection sites encouraging thermostat recycling bin return
- Letter to all contract, retail, and household hazardous waste (HHW) collection sites offering free full-color thermostat recycling poster
- 300 postcards to HVAC contracting businesses (fewer than 10 employees) promoting $5 incentive
- Created trifold brochure highlighting $5 incentive targeting consumers

NEMA has identified areas of the state with very low participation, which include Aroostook and Washington Counties.

Current performance: On a per capita basis, Maine in 2015 collected more thermostats than any of the other 13 states with thermostat EPR programs. Vermont was a close second, while the remaining 11 states had per capita collections trailing by at least one-third. Only Maine and Vermont provide a $5 incentive for each thermostat recycled. In 2015 alone, the recycling of thermostats in Maine prevented the release of 35 pounds of mercury to the environment. This compares to 47 pounds collected in 2014. Since 2001, a total of 445 pounds of mercury has been recovered through thermostat recycling efforts in Maine.[13]

[13] Department staff recently reviewed all historic data provided by TRC. An average of 3.1 grams of mercury per thermostat was found and used in calculations for this year's report. In previous reports, an estimate of 4 grams per thermostat was used to calculate the total amount of mercury collected.

Figure 6 - Number of mercury thermostats collected annually in Maine



Prior to the implementation of 38 M.R.S. § 1665-B, annual thermostat collections from 2001-2005 ranged from 3.8 to 15.6 per 10,000 residents. After the Maine EPR law was implemented, collections increased slowly at first, with a more significant increase in annual collections occurring in 2007-2015 when the incentive was added into the program, with a range of 36.1 to 52.9 thermostats collected per 10,000 residents. Although there has been a slight decline over the past three years, average annual collections remain at around 5,000 thermostats per year, consistently at least 40 % higher than the rates achieved before the $5 incentive was implemented.

Despite this, annual thermostat collections in Maine are well below the statutory goal. 38 M.R.S. § 1665-B sets collection and recycling goals by weight, of at least 125 pounds of mercury within two years of implementation of a collection program at HVAC locations, and 160 pounds per year within three years of implementation of the collection program at retail locations. The collection goals at 38 M.R.S. § 1665-B.5 were established based on the best available information at the time the law was passed. i.e., 27,000 mercury thermostats would be available annually for recycling, with an average of 4 grams of mercury per thermostat. More recent information indicates the assumptions used in the original calculations are high, suggesting that the statutory goal should be reevaluated.

The Legislature may want to consider revising the collection goals in 38 M.R.S. § 1665-B.5 to more realistic goals based on the best available data.

Discussion: In June of 2015, the Skumatz Economic Research Associates (SERA - www.serainc.com) published a report, *Estimated Annual Outflow of Mercury-Containing Thermostats in the State of Maine,* describing their research and methodology to develop an estimate of the projected number of mercury-containing thermostats that annually will become waste in Maine over the next several decades. Prior to doing the Maine study, SERA performed similar studies for California, Illinois, and Rhode Island, and refined their study approach in Maine to address any identified weaknesses in methodology. For the years 2015 – 2024, the SERA report predicts 16,000 mercury thermostats will be removed annually in Maine. Although the report has not been subject to a

formal peer review, the results provide a good indication that the collection goals established in statute should be revised.

Actual annual collections, shown in Table 3, have varied significantly. Using the SERA estimate of 16,000 thermostats available for recycling, all collections achieved a 32.14% recycling rate in 2015. This prevented the release of an estimated 35.1 pounds of mercury to Maine's environment.

Table 3
Number of Mercury Thermostats and Amount Mercury Collected, 2001 - 2015

Year	TRC program	Other collections	Total thermostats collected	Total pounds of mercury
2001	233	253	486	3.3
2002	280	856	1,136	7.8
2003	482	1398	1,880	12.8
2004	1,079	335	1,414	9.7
2005	1,290	701	1,991	13.6
2006	2,924	361	3,285	22.5
2007	4,656	1,030	5,686	38.9
2008	5,393	1,176	6,569	44.9
2009	6,374	655	7,029	48.0
2010	6,523	170	6,693	45.7
2011	6,616	256	6,872	47.0
2012	6,679	333	7,012	47.9
2013	4,213	589	4,802	32.8
2014	4,341	841	5,182	35.4
2015	4,571	571	5,142	35.1
Grand Totals	**55,654**	**9,525**	**65,179**	**445**

As was recommended in the 2016 Product Stewardship report, the manufacturers' simplified their financial incentive payment system for wholesaler and contractor locations. Implementation of these changes began in October of 2016, with the changes anticipated to be fully in place by February of 2017.

F. MERCURY LAMPS - 38 M.R.S. § 1672

Program description: Manufacturers of mercury-added (fluorescent & HID) lamps utilize the National Electrical Manufacturers Association (NEMA) to implement their product stewardship responsibilities for mercury-added lamps generated as waste by households. This manufacturer

supported recycling program provides free containers, shipping and recycling services to voluntarily participating retail and municipal collection sites.

Current performance: NEMA collected and recycled 135,314 mercury-added lamps through its product stewardship program in Maine in 2015, which equates to approximately 12% of available lamps. Since 2011, the National Electrical Manufacturers Association (NEMA) program has continued its trend of increasing annual collections of mercury-added lamps each year, although the percentage of lamps collected remains very low. Seven new collection sites, including six municipal sites, joined the NEMA program in 2015. A survey of consumers showed that 41% of Maine residents are aware that bulbs they replace can be recycled.[14]

Table 4 – Household Mercury-added Lamp Recycling Rates

	# NEMA collection sites	# lamps recycled by NEMA	# lamps recycled by others	# lamps available for recycling	household lamp recycling rate	NEMA recycling rate
2011	149	6,634	163,196	688,000	24.68%	1%
2012	263	50,492	155,159	708,889	29.01%	7%
2013	293	97,743	149,191	844,576	29.24%	12%
2014	300	109,337	128,859	1,042,750	22.84%	10%
2015	307	135,314	244,791	1,127,500	33.71%	12%

NEMA utilized both print and web-based advertising in its education and outreach efforts to consumers in 2015. This included a targeted outreach campaign in Southern Maine utilizing print ads in *Uncle Henry's*, *Downeast Magazine*, the Bangor Daily News, Portland Press Herald and some local weekly papers; distribution of a radio public service announcement (PSA) to 95 area-specific radio stations; internet search purchases; and, print and signage advertising at University of Maine Black Bear athletic events. NEMA also maintained a Maine program page on their www.lamprecycle.org web site, and provided 6 collection sites with in-person technical assistance visits.

Discussion: NEMA estimates the number of lamps available to be recycled based on historic sales through retail locations. Small businesses as well as households purchase their mercury-added lamps from these retailers. Because access to this program is limited to households, small businesses must individually contract with a universal waste management company to ensure appropriate recycling of their waste mercury-added lamps. Providing small businesses which generate waste mercury-added lamps originally purchased through retail locations with the option of delivering their mercury-added lamps to the EPR program collection sites would significantly reduce the barriers to recycling for the small businesses by increasing availability of collection locations and decreasing costs. It would also provide the small businesses with the same recycling opportunities currently available to other individuals who purchase mercury-added lamps at retail locations. Allowing small businesses to utilize the program would result in a more accurate measure of program performance, and address concerns of collection sites when confronted with a small business seeking to recycle mercury-added

[14] Data on program performance comes from NEMA's annual report on calendar year 2015 activities, and from universal waste transportation manifests submitted to DEP.

lamps. The Legislature may want to consider expanding the program to allow acceptance of mercury-added lamps from small businesses.

G. ARCHITECTURAL PAINT - 38 M.R.S. § 2144

Program description: PaintCare is a non-profit third-party organization established by the paint manufacturers to fulfill their responsibilities under the EPR laws. Currently these laws are in effect in 8 states and the District of Columbia. Enactment of these laws has been supported by the paint manufacturers. This has resulted in consistency in the laws across these jurisdictions, enabling PaintCare and the manufacturers to take advantage of efficiencies provided by multi-state contracts for transportation and recycling. The costs of operating the PaintCare program are funded by a fee levied at the point of sale on paint, with revenue from those fees collected in Maine covering the direct expenses of the PaintCare program in Maine.

Consumers can return unwanted architectural paint to participating retail and municipal collection sites, and to municipally-offered household hazardous waste (HHW) collection events that partner with PaintCare. PaintCare provides the collection sites with gaylords (boxes that are approximately one cubic yard in size) for collection and shipping of the paint. Collection sites are responsible for limiting access to the gaylords so that only covered products are collected, and for calling PaintCare's contracted hauler (Clean Harbors) for pick-up. The paint is then transported to a facility where it is sorted and shipped on for recycling, fuel blending or disposal depending on the paint type and condition. PaintCare provides each collection site with in-person training, a training manual, education & outreach materials for customers, and readily-available technical assistance for any questions or issues that may arise.

Current performance: PaintCare collected and processed 88,712 gallons of postconsumer paint in the first nine months of the Maine program (October 1, 2015 – June 30, 2016). 100% of the oil-based paint was used as fuel. 83% of the collected latex was made into recycle-content paint; 17% was unrecyclable and sent to landfill. Additionally, 71 tons of consumer packaging, i.e., metal and plastic containers, were recycled. PaintCare held 1 one-day special collection event, collected paint from 18 one-day municipal HHW collection days, and provided bulk pick-ups at 6 contractors with more than 300 gallons of waste paint on site.

In the first 9 months of the program, PaintCare, representing 120 manufacturers, established 96 permanent year-round paint drop-off sites throughout the state for its program. These sites include 73 retail locations, 21 transfer stations, one building reuse store, and one hazardous waste management company. PaintCare's analysis shows that its collection network provides a permanent collection site within 15 miles of 93.5% of Maine's population, exceeding the 90% goal set in statute.

Discussion: The PaintCare program has been in place for a little more than one year and appears to be operating very successfully. Department staff has observed pick-ups of paint by PaintCare's contractor at collection sites, and discussed program operations with many retail and municipal collection site staff. Very few problems have been mentioned, and the overwhelming majority of program participants are pleased with the program. In 2017, Department and PaintCare staff will work together to identify and encourage retailers and municipalities in the few underserved areas to recruit additional permanent collection sites.

IV. Candidate products for new EPR programs

38 M.R.S. § 1772.2 sets out criteria for identifying products and product categories that when generated as waste may be appropriately managed under a product stewardship program:

> *2. Recommendations. The report submitted under subsection 1 may include recommendations for establishing new product stewardship programs and changes to existing product stewardship programs. The department may identify a product or product category as a candidate for a product stewardship program if the department determines one or more of the following criteria are met:*
>
> *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.*

Several states, local jurisdictions, and Canadian provinces have enacted EPR laws for products not currently addressed by Maine's product stewardship laws.

Table 5
Summary of State, Local and Provincial EPR Laws
for Products Not Subject to Maine Product Stewardship Laws

Key: √= state /provincial law; += local jurisdictions have ordinances

State / Province	CT	RI	MA	VT	CA	IL	WA	PEI	NS	QC	ON	MB	SK	AL	BC	Other
Products																
Primary batteries*				√				√	√	√	√	√	√	√	√	
Mattresses	√	√			√											
Carpet					√											
Packaging & Printed Materials										√		√				
Pharmaceuticals			√	√	+	+	+	√	√			√	√	√	√	
Pesticides & containers*					√			√	√	√	√	√	√	√	√	
Household Hazardous Waste											√					
Sharps									√							
Solvents/ Flammable Liquids															√	
Automotive (used oil and/or tires)								√	√	√	√	√	√	√	√	√

*Canada has national all-battery and pesticides/pesticide container EPR laws

Of these programs, those that have been most recently implemented in the northeast with at least one-year of operations include the primary battery law in Vermont, and the mattress product stewardship laws in Connecticut and Rhode Island.

V. Conclusion

Depending on the costs of recycling and the value of reclaimed materials, product stewardship programs may impose costs on manufacturers that are ultimately passed on to consumers. Some may view assigning end-of-life management responsibilities to manufacturers as a way to internalize some of the externalities created by manufactured goods. While new product stewardship programs may make sense in the future, Maine should move forward deliberately. When determining whether new programs make sense for our State, one must consider Maine's vast geography and lack of population density which limit economies of scale and complicate the logistics. At this time, our best course of action is to continue monitoring emerging programs in other states, and to adjust existing program requirements to improve efficiencies.

The following documents are the comments which were received by the Department on this report...

North Coast Services, LLC
235 Heritage Ave, Suite 1
Portsmouth, NH 03801

Committee on the Environment and Natural Resources
128th Maine Legislature
c/o
George MacDonald
Maine DEP
17 State House Station
Augusta, ME 04333-0017

Re: comments on "Implementing Product Stewardship in Maine, January 2017"

Dear Sen. Saviello, Rep. Tucker, and other ENR Committee members:

I would like to take this opportunity to comment on the discussion dealing with **CONSUMER ELECTRONICS - 38 M.R.S. § 1610** in the document "Implementing Product Stewardship in Maine, January 2017". In 2001, I began working with municipalities to encourage the recycling of electronics, and have worked for businesses approved to consolidate and recycle electronics since the beginning of Maine's e-waste product stewardship program.

North Coast Services supports changing the basis on which IT product manufacturers are billed for recycling costs from return share to market share, and requests that the ENR Committee introduce legislation to implement this change.

This change would make the program more efficient in capturing data, streamline data reporting to manufacturers, and eliminate the expense of maintaining warehouse space designated for storing "Option 1" material. This change would also reduce the per lb. cost to IT manufacturers, and would provide a clearer and easier way to verify monthly invoices sent from consolidators to manufacturers.

Thank you for your time in reading my comments. Hope you find this helpful, and please call me if you have additional questions.

Respectfully,

William G. Andrews, Manager
North Coast Services
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bandrews@ncoastllc.com

MacDonald, George

From: Travis Wagner <travis.wagner@maine.edu>
Sent: Tuesday, January 24, 2017 1:08 PM
To: MacDonald, George
Subject: Public Comment on Implementing Product Stewardship in Maine, January 2017.

George MacDonald
Maine DEP
17 State House Station
Augusta, ME 04333

Dear George,

Below I am providing comments on the Maine DEP's draft report to the Legislature, *Implementing Product Stewardship in Maine*, January 2017.

1. On page 7, the quantities of container materials recycled are presented in tons. I suggest that you also add estimated container counts based on standard assumptions as this would be more understandable to readers. And, of course, noting that this is an estimate. For example, standard aluminum beverage cans weigh about 14.9 grams, which equates to 60,885 per ton, or ~304.4 million aluminum beverage cans (based on the 5,000 figure provided in the report).

2. In Section D, consumer electronics, while the status of the current program is sufficiently presented, I suggest that a brief discussion be included of the potential impact of the national CRT recycling problem and its potential impact, if any, on Maine's program. I am sure you are well aware of the problem involving the recycling of CRT glass nationwide as it is likely to get more attention as CRT is collected throughout the country, but its recycling has become problematic. Therefore, please consider addressing this as a potential future concern, or non-concern, to Maine's program regarding the recycling opportunities and thus costs of CRT glass recycling.

Sincerely,
Travis Wagner, Ph.D.
Professor, Department of Environmental Science & Policy
University of Southern Maine

1/17/2017

From

Chris Martin, Director of SKILLS' eWaste Alternatives (Northern New England, Waterville) and Co-founder of ITE and the PCs for MAINE program (Statewide, Belfast) since 2002.

Regarding

Commenting on "The Report to the Join Standing Committee on Environment and Natural Resources 128th Legislature, First Session, Implementing Product Stewardship in Maine, January 2017" specifically to Section III, Part D and Section IV, Table 5, Primary Batteries.

- **To Section III, Part D, Consumer Electronics;**

We would like to see the 'Consumer Electronics' with 'Option 1' portion of the program change to straight 'Market Share' as the TV portion of the program is modeled.

From a business perspective, participating in the TV portion of the program – because of its use of a 'Market Share' model - has been manageable and effective and we hope to continue our participation for years to come.

The Consumer Electronics (electronics other than TVs) portion of the program however, is not something we, as a small community recycler, have been able to participate in. This is due to its use of the 'Return Share' and 'Option 1' operating model which comes with several process, handling and storage requirements that make it prohibitive for us to participate.

The 'Return Share' model and 'Option 1' component requires us to have the ability to sort and store devices by manufacturer for shipment to several different recyclers – all of whom are located out of state – in loads of a minimum of 16,000 pounds before those recyclers are required to collect those materials. The result is the need to accumulate and store 80,000 pounds of material which requires more than 3,500 sq ft of warehouse space – we do not have this much available storage.

If the Consumer Electronics model changed to 'Market Share' (such as the TV program uses) and we were not required to store materials for shipment to specific processors (Option 1), we could participate in the program and recycling of these materials would probably increase significantly throughout the entire state as more small recyclers and consolidators could come into the program.

This change would also enable us to actually process these materials at our Waterville facility, whereas we currently are required to send them – and the value of the work created - out of state to 'Option 1' OEM processors. This also eliminates an additional shipment and process step that would reduce the cost of these materials for manufacturers.

- **Section IV, Table 5 – Primary Batteries**

Although the EPA still indicates these as 'not Universal Wastes' and fit for the landfill, we have many inquiries about disposal options for them from folks in our community and business clients alike.

Currently we have to charge our recycling clients for these batteries, and for real metal to metal recycling (not special landfill as with most 'recycling' options out there) this is an expensive material

type to recycle. I find only our hardest core recyclers will bear the cost to prevent them going into our landfills, but if added into the EPR program that could change completely.

Addition of Primary, 'Disposable' batteries to Maine's EPR program would enable a tremendous amount of diversion of this material from our landfills as many in our community are already suspicious of its risks to the environment – people ask us about them every day. Implementation of a recycling option for these materials in community centers is rather easy and involves lower health and safety risks than most of the other materials we have to manage.

Thank you for reading my comments,

Respectfully Submitted,

Chris Martin

MAINE BEVERAGE ASSOCIATION

77 SEWALL STREET, SUITE 3000 | AUGUSTA, MAINE 04330
P: 207-622-3747 F: 207-622-9732

To: George MacDonald, Maine DEP
17 State House Station, Augusta, ME 04333-0017

From: Newell A. Augur, Executive Director

Re: Implementing Product Stewardship in Maine, January 2017

Date: February 9, 2017

On behalf of the Maine Beverage Association, the trade group representing Coca Cola Northern New England, Pepsi Beverage Company, Poland Spring and Polar - the local distributors of regular and diet beverages, water, juices and sports drinks, among other refreshing non-alcoholic products - thank you for the opportunity to provide comment on the report, Implementing Product Stewardship in Maine, January 2017. Our remarks are specific to that portion of the report addressing Maine's beverage container redemption law, also known as the bottle bill.

The bottle bill is not a Product Stewardship Program.

The bottle bill should not be classified a product stewardship program. It is a mandate that forces the use of a particular delivery and pickup model for certain beverage packages. The model is designed to replicate the operation of a refillable-based system for bottles – a delivery system broadly rejected by consumers nearly 40 years ago. An authentic product stewardship program would include all producers selling any beverages in any packages; Maine's bottle bill excludes all milk and milk derivatives, certain cider and blueberry juices, a number of other specialty products, and several additional categories of beverage packaging.

Moreover, product stewardship is epitomized by the flexibility it gives producers to address the lifecycle impacts of their products. Producers design and manage their own collection and processing programs to fulfill that responsibility. Government sets goals and performance standards, and producers determine the most cost-effective means of achieving those targets. Beyond that, product stewardship programs operate with minimal government involvement.

In marked contrast, the bottle bill is proscriptive, not cost-effective, limits producer flexibility, and has significant government involvement.

The handling fee is the funding mechanism for the bottle bill.

In Maine, the bottle bill has inelegantly morphed into a market-distorting and expensive recycling program. Each container processed through the bottle bill triggers a subsidy payment of 3.5 or 4 cents due to the state mandated handling fee. That amounts to more than $35 million each year. There is an additional cost for distributors to collect and process containers from the approximately 400 redemption centers in the state, and a significant and widely ignored cost to consumers for their time and mileage devoted to returning containers. Those same containers can be processed through a mature municipal solid waste system for substantially less.

We believe that the "Funding Mechanism" column in Table 2 on page 6 of your report is misleadingly labeled. Rather than using the term "internalized," it would be more accurate to note whether or not a visible fee is charged. The concept of internalizing costs brings into question how mandated charges are absorbed into a business' cost structure versus passed through in pricing; that is not something that can be broadly stated.

We would suggest that the "Funding Mechanism" column would be more accurate if it were entitled "Visible Fee or Other Funding Mechanism." For beverage containers, the corresponding entry would be "Distributor mandated pickup and handling fee." (Other products could be completed similarly). This would be less vague or misleading than simply stating "internalized costs."

The redemption rate in Maine is 70% when discounted for fraud.

The claim at page 7 of the report that "80 to 90% of covered beverage containers sold in Maine are redeemed for deposit" is incorrect. The actual number is closer to 70% when discounted for fraud.

Fraud is an endemic problem with every bottle bill, and Maine is no exception. Fraud comes in many forms: bad actors who bring truckloads of pre-sorted containers from New Hampshire and Massachusetts; Maine residents who shop in New Hampshire and then collect a deposit that they never paid in the first place; redemption centers that inadvertently, or deliberately, short the bags they present to distributors for pick up. Each fraudulent container costs up to 9 cents – the nickel deposit and the handling fee. Fraudulent wine and liquor bottles cost up to 19 cents.

Fraud costs Maine distributors – and ultimately Maine consumers – approximately $7 million each year. Our members do regular internal audits on this issue; $7 million of fraud is a conservative figure. Our redemption rate for the months of August and September in the Southern part of the state is consistently higher than 110%. That means for every 100 containers we sell, we pay deposit and handling fees on 110.

We hope that in compiling future reports on this subject the Department will seek input from local distributors rather than relying upon an advocacy group based in California that does not sell or collect containers in Maine and does not have staff in Maine monitoring those operations. The advocacy group cited in the report is funded largely by glass manufacturers that have historically advocated for bottle bills as a way to reduce their cost to access material. Rather

than paying to clean glass that is recycled through municipal systems, the glass companies support bottle bills, which shift that burden - and the cost - to beverage distributors and our customers.

We appreciate the opportunity to provide these comments. We hope the Department considers making the changes suggested and would be pleased to provide any additional information in this regard.

PRODUCT MANAGEMENT ALLIANCE

February 10, 2017

Mr. George MacDonald
Director, Bureau of Land Resources
Maine DEP
17 State House Station
Augusta, ME 04333-0017

Mr. MacDonald,

On behalf of the members of the Product Management Alliance (PMA), we appreciate the opportunity to express the Product Management Alliances' position on the Department of Environmental Protection's Report to the Joint Standing Committee on Environment and Natural Resources, 128th Legislature, Second Session, Concerning the Implement of Product Stewardship in Maine.

My name is Kevin Canan, and I serve as the Executive Director of the PMA. By way of introduction, the PMA is a coalition comprised of trade associations and corporations that represent a broad array of consumer products. Our mission is to support market-based extended producer responsibility (EPR) efforts, as well as voluntary incentives for increased recovery and sustainable products and package design. We were founded precisely as a response to the signing of LD 1631 into law in 2010, the law which compels this report.

PMA's members have long strived to voluntarily recover the products that they manufacture. The PMA understands and appreciates Maine's desire to seek ways to improve the recovery rates of goods. However, we believe that expanding current EPR programs and adding additional EPR programs for additional products, specifically the carpet and mattress industries enumerated in the report, would simply add costly and unnecessary mandates for both the state government to implement and run this program; as well as for retailers and manufacturers in Maine. These costs will ultimately be borne by taxpayers and consumers.

Additional EPR programs would set up a confusing and bureaucratic system of recovery for the residents of the state with similar types of products having very different end-of-life recovery schemes. In addition, these types of restrictive programs would likely to have a chilling effect on manufacturers and retailers doing business in Maine, and as a result business very well could be lost to neighboring states.

PMA members and businesses utilize sophisticated programs in place that continue to increase the amounts of products recovered and recycled through voluntary initiatives. Today recovery rates are at record levels, and they are continually striving to increase these numbers. The existence of these efforts illustrate that new mandates on producers are not necessary to reduce waste and increase recycling and the use of recycled content. Thus, we urge the DEP and the legislature to **strongly examine voluntary, market-based recovery efforts** for increased recovery of products and oppose any further expansion of EPR in the state.

The members of the PMA, and the industries they represent, recognize the desire of the public and policymakers for environmentally responsible business practices. That is why our member companies are voluntarily involved in waste recovery programs, and support recycling where it is economically and logistically feasible.

We hope to have a positive and constructive working relationship with you.

Sincerely,

Kevin C. Canan
Executive Director

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www.sleepproducts.org

February 10, 2017

George MacDonald
Maine Department of Environmental Protection
17 State House Station
Augusta, ME 04333-0017

Re: Comments on January 2017 report, *Implementing Product Stewardship in Maine*

Dear Mr. MacDonald,

The International Sleep Products Association (ISPA) is the trade association for mattress manufacturers and component suppliers to the industry. ISPA has served as the voice of the mattress industry for over 100 years. We appreciate the opportunity to comment on the Department of Environmental Protection's (DEP) January 2017 report, *Implementing of Product Stewardship in Maine*.

As the DEP is aware, there are currently three statewide mattress recycling programs operating in the U.S. in California, Connecticut and Rhode Island. Each law is funded through a mandatory visible fee that is charged on each mattress and box spring sold. The collected fees are used by an industry run, non-profit recycling organization to contract with waste haulers and recyclers to recycle mattresses. Each state is operated independently. The current fee in each state is as follows:

California - $11.00
Connecticut - $9.00
Rhode Island - $10.00

In the report, DEP states of the programs in Connecticut and Rhode Island (and the battery law in Vermont) that "[t]he initial strong performance and geographic proximity of these programs make these two products possible candidates for consideration by the Legislature for new product stewardship programs." This follows DEP's 2016 report that stated it was premature for Maine to consider such programs due to the fact that existing "fees remain high and could be even higher in Maine based on population and geographic constraints faced in our rural state." This has not changed.

While the mattress industry is committed to working with states to create practical mattress recycling programs where they are needed, we are concerned about the lack of adequate recycling infrastructure in Maine. In each of the existing program states, multiple recyclers operated in the state prior to passage of the law. Currently, we are aware of no mattress recyclers operating in Maine, meaning that any such program would have to rely on out-of-state or foreign operators to recycle mattresses. In addition to likely higher processing costs, transportation costs will be significantly higher which can compose 25% - 40% of the fee. As a result, the consumer fee needed to fund such a program would be much higher in Maine compared to existing states.

Until there are recyclers located in the state or region that can handle the volume a statewide mattress recycling program would generate and recycle all or most of the components contained in a mattress, a statewide stewardship program for mattresses cannot be successful. In the interim we remain committed to working with the DEP and the Legislature to explore all options to promote the recycling of mattresses.

Please feel free to contact me if you have any questions.

Sincerely,

Christopher B. Hudgins
Vice President, Government Relations & Policy
International Sleep Products Association

National Electrical Manufacturers Association
1300 North 17th Street, Suite 900
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703-841-3249
Fax: 703-841-3349
mar_kohorst@nema.org

DATE: February 10, 2017

TO: George MacDonald, Sustainability Division Director
Maine Department of Environmental Protection

FROM: The National Electrical Manufacturers Association (NEMA)

RE: NEMA Comments on Maine DEP Report, "Implementing Product Stewardship in Maine," dated January 2017

The National Electrical Manufacturers Association (NEMA) is the primary trade association representing the interests of the US electrical products industry. Our nearly 350 member companies manufacture products used in the generation, transmission, distribution, control, and end-use of electricity, constituting the very foundation of the worldwide infrastructure for supplying power.

Most electro-industry products are long lived and used in commercial and industrial settings. Some, however - such as household lamps, batteries, and thermostats - are consumer oriented and sold primarily for residential uses. Several of these have been the focus of product stewardship laws in Maine and our members have a long history of working with Maine legislators and regulatory authorities on the development of these laws and the programs they authorize.

NEMA appreciates the opportunity to comment on the latest version of the Maine Department of Environmental Protection's (DEP) report on "Implementing Product Stewardship in Maine." We look forward to continuing discussions with DEP staff on how best to maintain the success of stewardship programs going forward. Our comments on the report are presented below.

General Comment

The report states that "*Each of Maine's product stewardship programs were conceived and developed in response to identified, documented or perceived needs and threats.*" The first two modifiers in the underlined phrase make sense in that public policy is often government's response to observation and scientific evidence. But NEMA questions whether a "perceived" need or threat constitutes sufficient justification to enact a government mandate that could have significant impacts on industries and other regulated parties. A more appropriate reaction to a ***perception*** of need or threat would be investigation and data-gathering, coupled with interaction with all stakeholders and followed by consideration of alternative policy responses – one of which would be that no action at all is warranted.

Section III-E: MERCURY THERMOSTATS - 38 M.R.S. § 1665-B

In its 2015 report, DEP recommended changes aimed at improving the efficiency of the industry funded Thermostat Recycling Corporation (TRC) – particularly with regard to payment of the statutorily required financial incentive to contractors and homeowners. NEMA and TRC subsequently met with DEP staff to discuss those changes and they were integrated into the program later in the year.

NEMA has several comments regarding the discussion of the TRC program in the current report. They are as follows.

- Page 13: DEP states that, "*mercury thermostats are one of the major contributors to mercury releases to Maine's environment*," yet provides no references to support this statement. How is this determined? NEMA's understanding is that Eco-Maine, Penobscot Energy Recovery Company, *et al.* have made significant achievements in separating mercury-containing devices and other "dirty waste" from feed stocks to waste-to-energy facilities. Meanwhile landfilling operations in Maine are subject to strict requirements under Chapter 401 of the state's Solid Waste Management Rules, which makes mercury releases to soil and groundwater unlikely. NEMA recommends the department provide justification for this statement or strike it from future reports and other public releases.

- Page 14: The origin and operational status of the TRC are incorrectly characterized. The TRC was not "*established by the National Electrical Manufacturers Association (NEMA) as a service to its member manufacturers.*" It was established by three NEMA member companies as a wholly independent, non-profit entity for the sole purpose of providing a nationwide mechanism for mercury-thermostat collection and recycling. Once formed, the TRC contracted with NEMA for staffing assistance in administering the program, but NEMA has never provided funding for any part of its operation and no longer provides staff support. TRC was originally housed within NEMA's headquarters for convenience purposes, but relocated to Alexandria, VA in 2013. It has since moved to Fort Washington, PA and remains independent of NEMA.

- Page 16: DEP states that close to 15% of mercury thermostats collected since 2001 (9525/65179) resulted from "other collections" and not the TRC program. Can the department specify the source of these collections and confirm that they stem from programs that meet statutory requirements in 38 M.R.S. § 1665-B, particularly with regard to payment of financial incentives to contractors and homeowners?

- Page 15: In its discussion of Maine's thermostat recycling statute and the TRC program, the DEP again makes reference to the "SERA" study – a non-peer reviewed statistical analysis of the underlying "stock" of mercury thermostats still in use in Maine. The report notes that the SERA method had been applied in other states for similar purpose and contends the researchers *"refined their study approach in Maine to address any identified weaknesses in methodology."*

  NEMA is unaware of any refinements to the SERA methodology that would have overcome the deficiencies cited in the extremely critical reviews that emanated from prior

expert evaluations.[1] In fact, NEMA provided the Maine Joint Committee on the Environment & Natural Resources with a summary of weaknesses displayed in the SERA methodology ***as it was applied in Maine.*** That summary is included as an addendum to this submission.

In short, NEMA believes that DEP's statement in last year's version of this report that "*caution should be exercised in application of (the SERA Report's) projections of the number of thermostats available for recycling to measure program performance or set recycling goals*" remains accurate. The volume of thermostats the study projects will enter the waste stream in future years in Maine continues to be vastly inconsistent with TRC's experience and observations.

- Finally, if one assumes that SERA's estimate of 16,000 mercury thermostats entering the waste stream in Maine each year is accurate, the resulting recycling rate of 32.14% suggests the program is working well in the state.[2]

Section III-F: MERCURY LAMPS - 38 M.R.S. § 1672

Table 4 of the report's discussion of mercury lamp recycling in Maine provides data on the number of household lamps recycled through the NEMA program as well as those recycled "*by others.*" In the discussion the "household lamp recycling rate" of 12% for the NEMA program is characterized by DEP as "*very low.*"

NEMA's comment is that recycling rate calculations rely heavily on estimates of the number of lamps ***available for recycling*** during the course of the year. This is a highly uncertain figure that NEMA computes by combining generalized "lamp-life" projections with pro-rated, national sales data from past years. Because a range of uncontrolled factors can affect these estimations, NEMA believes lamp recycling rates in Maine - or any other state or region – should be presented as approximations, at best.

More importantly, NEMA cautions against the DEP's suggestion that the Maine legislature "*consider expanding the program to allow acceptance of mercury-added lamps from small businesses.*" Under the statute that governs lamp-recycling in the neighboring state of Vermont, "covered entities" can recycle any number of CFLs as well as up to 10 mercury added lamps of other types. This ***has*** created incentives for business owners to dispose lamps through the program, which appears to be DEP's rationale for making this suggestion.

To the extent this occurs, however, it "crowds out" opportunities for independent lamp recyclers who service commercial/industrial/institutional (CII) establishments and risk losing customers to the manufacturers' program, which by law provides its service at no cost. Vermont's program - like Maine's – was never intended to serve commercial generators, many

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[1] See Jewell, Nicholas P., "External Peer--Review of Thermostat Collection Study," University of California-Berkeley, October 15, 2012; also Prairie Research Institute, University of Illinois at Urbana-Champaign, "Estimated Annual Outflow of Mercury-Containing Thermometers in the State of Illinois by Skumatz Economic Research Associates (SERA)," April 2014.

[2] The 32.14% figures compares well with the state's Combined MSW, CDD & Landclearing Debris Recycling Rate of 39.6%, as reported in DEP's Jan 2014 report entitled Maine Materials Management Plan: *2014 State Waste Management and Recycling Plan Update & 2012 Waste Generation and Disposal Capacity Report,* given that the state had established a goal of achieving a 50% recycling rate for these materials in 1989. Available at https://www1.maine.gov/dep/ftp/Juniper-Ridge/additional_documents/Maine%20Materials%20Management%20Plan%202014%20update.pdf

of which, depending on their size, are required to recycle waste lamps under the Federal Universal Waste Rule.[3]

Expanding the program in Maine in this manner would undermine the commerce of lamp recycling by interfering with contracts between generators and authorized recycler-vendors. It should be noted that the Association of Lighting & Mercury Recyclers,[4] the leading trade group representing lamp recyclers in North America, expressed strong opposition to the Vermont law on this basis.

In addition, NEMA struggles to understand how DEP could possibly enforce the statute if it were interpreted to enable "small businesses" to recycle lamps through the manufacturers' program. What constitutes a "small business" and how would the department ensure that large generators are not taking advantage of the program as they re-lamp their facilities?

NEMA continues to believe the most productive approach is to focus resources towards enforcing lamp recycling requirements at large CII facilities to the greatest extent possible, as these generate the vast majority of spent mercury-added lamps. This would be the most effective way for DEP to address the potential contribution of lighting products to mercury in the environment.

Please contact us at your convenience if you have questions or concerns about these comments.

Contact

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[3] See http://www.ecfr.gov/cgi-bin/text-idx?SID=0501d91ec562faafa833c60c2404d806&mc=true&node=pt40.27.273&rgn=div5#se40.29.273_15

[4] See www.ALMR.org

ADDENDUM

Comments on SERA Study of Annual Outflow of Mercury Thermostats in Maine

April 2015

General

- Consideration of this (or any) study of the existing stock of thermostats remaining in Maine is non-productive. Even if it could be done accurately, using such estimates to set arbitrary collection targets does nothing to improve the program and stimulate activity among the key sectors; principally contractors. Unless and until ***all*** sectors are meeting their obligations under the law, collections will not improve.

- If one accepts the SERA method and considers the Maine study to be accurate, it proves that the TRC has been ***remarkably successful*** in the state. A collection rate of 50% after eight years of program operation is outstanding. Table 1 shows that the state's rate of recycling municipal waste has been stuck at roughly 40% for two decades[5]

Weaknesses of SERA Study

- **The study was conducted on a very small sample population – insufficient as a basis for public policy.** According to the US Census, Maine had almost 725,000 housing units in 2013, 19% of which were in multi-unit structures. There were 40,000 business establishments in 2012. The survey findings represent data from 892 (untrained) respondents in total, only a portion of which were validated afterward.

- **The study sample fails to define a representative sample of home owners, businesses, facilities managers, and contractors.** The study sample included both single family and multi-family residential units, but no effort was made to stratify further (*e.g.*, age, size, fuel type, value, construction – what about mobile homes?). Moreover, commercial buildings were stratified by no other characteristic than number of employees.

- **No pre-testing was conducted:** There was no effort to conduct focus groups and pre-testing to evaluate the survey framework and question design. This is needed to develop an understanding of how occupants think and talk about thermostat installation and replacement, awareness, and familiarity with thermostats and thermostat age.

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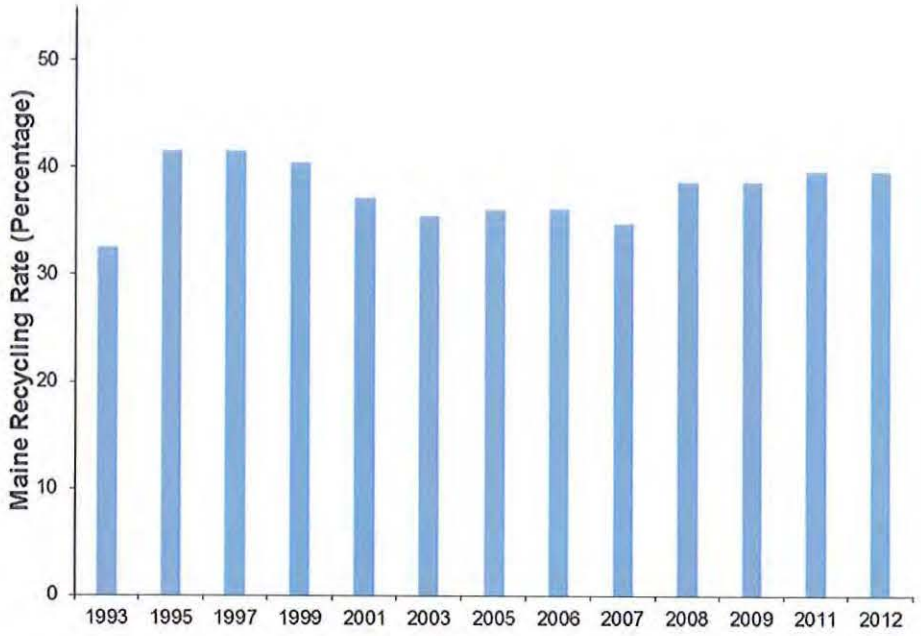
[5] Despite decades of effort and maximum convenience for consumers, the recycling rate for newspaper in the US is only about 65%. Only 9% of the total plastic waste generated in 2012 was recovered for recycling. (US EPA) Meanwhile glass bottle recycling has only reached about 20% after many years and the US national plastic bottle recycling rate has remained steady at about 27% (Earth911.org)

- **Age distribution of thermostats is vastly overstated.** The age distribution of thermostats in the study (see pg. 21) is vastly inconsistent with the typical ***service life*** of thermostats, which most often correlates with the age of the heating & cooling system. These data were not verified through validation activities. The most authoritative sources cited in the Skumatz study for this topic support the point that the study distribution is skewed and most older thermostats are no longer in service (see end of Appendix F, pg. 51).

- **Study is first in Maine and not peer-reviewed.** Previous applications of the SERA methodology were heavily criticized in peer review. Current version has not been subject to similar scrutiny.

TABLE 1 – Maine Recycling Rate for MW



Changes in the Maine statewide recycling rate of municipal waste over a period of about two decades (Maine SPO, 2011, Maine DEP, 2014).

RETAIL ASSOCIATION OF MAINE
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February 10, 2017

Mr. George MacDonald
Maine Department of Environmental Protection
17 State House Station
Augusta, ME 04333-0017

RE: Comments on 2017 Product Stewardship Report

Dear Mr. MacDonald:

Please accept the following comments in response to the recent draft **2017 Product Stewardship Report** in Maine.

My name is Curtis Picard and I am the Executive Director of the Retail Association of Maine. I am a resident of Topsham. We have nearly 400 members statewide and represent retailers of all sizes. Maine's retailers employ more than 80,000 Mainers.

Our comments are directed specifically to Maine's paint stewardship program as the 2017 report is the first one to report results since the program has been implemented. While we are pleased to see 88,712 gallons collected, we have some concerns and comments that we wanted to share.

As we testified during the public hearing on this program, the PaintCare model was unusual because instead of the product fee being collected and remitted to the State of Maine, the fee was collected and remitted to a 501 (c) 3, not-for-profit charitable organization called PaintCare, Inc., which was created by the paint manufacturers industry. In essence, this is a tax that goes directly to a product manufacturer.

Our concern then and now is that the State of Maine does not have an ability to fully monitor the costs involved with running the program and the corresponding revenues that are generated from the participating states. Here are our suggestions:

1. The report should include the number of containers sold and the corresponding fees collected annually from Maine in addition to the number of gallons collected for recycling.

2. The report should recommend an independent audit of the financials of PaintCare, Inc. and, in particular, a breakdown of the revenue and expenses for Maine. For example, their 2014 IRS 990 tax fling reports $47 million in total revenue and $40.2 million in expenses for a net profit of $5 million. The previous year reported $43 million in revenue and $24.9 million in expenses for a net profit of $18 million. Their net assets now total $35 million. The president of the organization reported compensation

(salary and benefits) totaling $678,000; the chief financial officer, $208,000; the executive director, $192,949; and the secretary, $214,577.

3. We noted on the PaintCare website that the organization is seeking increased fees starting April 1, 2017 in Oregon and Minnesota. These fees would be higher than Maine's fees. The current fees in Maine are $.35 for container less than 1 gallon; $.75 per gallon; $1.60 for containers up to 5 gallons. https://www.paintcare.org/fees/ Will Maine be seeking higher fees soon?

4. In regards to the fees, it is important to note that the fees are not a deposit. So, on product purchases where the product is used up completely, the fees are still paid into the program even though there is no leftover product to recycle.

5. The report should examine where the recycled paint was used. Was it used in the US or shipped overseas?

Thank you for the opportunity to provide comments on the report.

Sincerely,

Curtis F. Picard

Curtis Picard, CAE, Executive Director

MacDonald, George

From: Jason Linnell <jlinnell@electronicsrecycling.org>
Sent: Friday, February 10, 2017 4:22 PM
To: MacDonald, George
Subject: Comment on "Implementing Product Stewardship in Maine, January 2017"

Dear Mr McDonald:

The National Center for Electronics Recycling (NCER) would like to provide the following comments on a specific recommendation from DEP in the "Implementing Product Stewardship in Maine, January 2017" report. NCER is a non-profit organization whose mission is to develop and enhance the national infrastructure for recycling used electronics. NCER also manages the Electronics Recycling Coordination Clearinghouse (ERCC), which provides a forum for information exchange among state agencies implementing electronics recycling laws and all impacted stakeholders, of which Maine DEP is a Founding Member. On Page 13, "[T}he Department recommends the Legislature consider changing the basis on which IT product manufacturers are billed for recycling costs from return share to market share. This change would align Maine's program more closely with other states' programs, eliminating a cause for confusion for manufacturers seeking to comply with multiple differing state laws."

NCER would like to note that the recommendation to change the basis for recycling costs to market share does represent a trend in harmonization among the 25 state electronics recycling programs (including the District of Columbia). As of last month, Maine was one of only four states to still use a "return share" basis for any type of obligation for manufacturers under their laws. The other states are: Connecticut, Rhode Island, and Oregon. The last state to pass a new law that included return share requirements was Rhode Island in 2008. Since then, several states who previously had elements of return share obligations for non-TV manufacturers have amended their laws to switch to market share. These include: Illinois (2011), Washington (2015), and New Jersey, whose Governor just signed a bill in January 2017 which made several changes including the removal of return share requirements.

Market share information is available through either direct manufacturer reports or from market research firms. Using market share as the basis does also lead to state agencies having to track fewer manufacturers overall compared to those with some element of return share (which requires tracking historic manufacturers who aren't currently selling). As a general guideline, we have seen that market share states annually register 75-125 manufacturers depending on the scope of products, whereas return share states can have between 150-200. We are happy to provide more specific data upon request.

NCER is grateful to have the opportunity to provide these comments, and wish the Department continued success in the implementation of this program.

Sincerely,

Jason Linnell
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Natural Resources Council of Maine
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February 10, 2017

George MacDonald
Maine DEP
17 State House Station
Augusta, ME 04333-0017

The Natural Resources Council of Maine is pleased to provide comments on the DEP's 2017 report, *Implementing Product Stewardship in Maine.* NRCM has worked with the DEP and members of the Maine Legislature to implement the product stewardship laws reviewed in this report, and we are pleased to see the excellent description of benefits and positive performance for each of the individual programs.

Our specific comments are as follows:

- We commend DEP for including Table 1 (page 4) which provides an excellent performance summary and environmental benefit description of each of the seven programs covered in the report. Notably, the table documents that these programs have resulted in the prevention of more than 620 pounds of mercury from being released. This is highly beneficial outcome, given the toxicity of mercury and the efforts by Maine policymakers to reduce mercury pollution to Maine's environment. The table also shows that the consumer electronics program has resulted in a very high rate of recycled products per capita, and the architectural paint program is off to a great start – with convenient collection sites and more than 88,000 gallons collected for recycling in its first year.

- The report provides excellent information about the continued success of Maine's beverage container redemption program, and we are pleased to see that data presented alongside Maine's other product stewardship programs.

- We agree with the Department's recommendation (page 8) that the Legislature may want to review the 2016 consumer battery stewardship proposal contained in LD 1578. We believe this bill had significant promise for eliminating the burden that free riders place on the existing rechargeable battery program.

- We are pleased to see that the Department's outreach to end-of-life vehicle handlers (page 9) has resulted in an increase in collection of mercury auto switches. We encourage the Department to continue this outreach work.

- The collection of 82 million pounds of Covered Electronic Devices (e-waste) is truly remarkable. As the report states (page 11), this program is succeeding "in providing a consistent recycling service to citizens throughout the state."

- We agree with the Department's assessment: "When improperly disposed of and not recycled, mercury thermostats are one of the major contributors to mercury releases to Maine's environment." (page 13). The report clearly validates the importance of Maine's $5 incentive for each thermostat collected, which helps explain the fact that on a per capita basis, Maine in 2015 collected more thermostats than any of the other 13 states with thermostat extended producer responsibility (EPR) programs. (page 14). Only Maine and Vermont provide $5 incentive, and Vermont has the second highest collection of thermostats per capita.

- While the thermostat collection program has been a success, it is clear that the Thermostat Recycling Corporation (TRC) has fallen far short of the statutory goal of collecting 160 lbs. of mercury annually through thermostat recycling. We agree with the Department that this is an unrealistic collection goal. NRCM recommends that the Legislature revisit and update the performance standards in the law, and institute enforceable collection goals based on current, statistically significant data. If the new goals are not met, then we believe that DEP should be authorized to require program changes necessary to meet the goal. This is the approach that Illinois, California, and Vermont are now using to upgrade their program. NRCM believes that the SERA study, referred to by the Department (page 15), will be extremely useful for setting new performance goals for Maine's thermostat collection program

- We support the recommendation that small businesses be given the option of delivering their mercury-added lamps to EPR program collection sites (page 17)

- NRCM appreciates the chart on page 19, which summarizes EPR programs in other jurisdictions for products that are not currently subject to Maine laws. From that chart, it does appear that a primary battery EPR program and a mattress EPR program seem like good candidates for legislative action in Maine. We also believe that an EPR program for carpets could be useful.

We appreciate the opportunity to provide these comments, and request that they be submitted to the Legislature with the 2017 report.

Regards,

Pete Didisheim
Advocacy Director