American Chemistry Council | Plastics Division

August 16, 2017

Mr. Will Flower and Mr. Victor Victor Bell, Co-Chairs
c/o Robin Bumpen, Committee Clerk
Committee on the Environment
Connecticut General Assembly
Legislative Office Building
Room 3200
Hartford, CT 06106

Re: American Chemistry Council comments to the Connecticut Task Force to Study Methods for Reducing Consumer Packaging that Generates Solid Waste

Dear Mr. Flower and Mr. Bell,

The American Chemistry Council's Plastics Division[1] (ACC) provides the following comments as a follow-up to our testimony to the Connecticut Task Force to Study Methods for Reducing Consumer Packaging that Generates Solid Waste (Task Force) on June 21, 2017. ACC represents leading manufacturers of plastic resins and we strive to be an expert resource on innovative plastics recycling[2] and energy recovery programs,[3] and educational and outreach programs to improve plastics recycling and recovery nationwide. ACC has a strong interest in sustainable materials management (SMM), plastics sustainability and recovery.

We commend the Committee for seeking to improve the performance of its packaging recycling and to fully utilize the value of materials that are currently being wasted in landfills. At the same time, we do not believe that the mandatory extended producer responsibility promoted by the Task Force is the best way to achieve these shared goals. Reliance on EPR can lead to an overemphasis on recycling to the exclusion of source reduction, conversion of non-recycled materials to energy, fuels and chemical feedstocks and the implementation of a true "sustainable materials management" system that uses life cycle analysis to better understand environmental impacts. Additionally, the Task Force's focus on EPR ignores existing funds that could be used to improve infrastructure and education while preventing Connecticut from fully utilizing solutions by partnering with industry and existing groups. We welcome the opportunity to work with Connecticut to grow plastics recycling and in that regard we encourage the state to:

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[1] ACC's Plastics Division represents leading manufacturers of plastic resins. From life-saving medical devices to packaging that extends shelf life, versatile plastics inspire countless innovations that help make life better, healthier and safer every day. Plastics Division members are: BASF Corporation, Braskem America, Inc., Chevron Phillips Chemical Company LP, Covestro, The Dow Chemical Company, DSM Engineering Resins, DuPont, ExxonMobil Chemical Company, LANXESS Corporation, LyondellBasell Industries N.V., NOVA, SABIC, Solvay America, Inc., Total Petrochemicals & Refining USA, Inc., Trinseo, and the Vinyl Institute.

[2] See, for example, Keep America Beautiful' s I Want to be Recycled campaign, The Recycling Partnership, WRAP program

[3] Plastics Energy Recovery on ACC.com

1) Consider adopting a holistic sustainable materials management approach that incorporates life cycle analysis and accounts for source reduction and energy recovery along with recycling;
2) Fully enforce Connecticut's existing mandatory recycling provisions and pursue collaborative policy approaches;
3) Embrace voluntary plastics recycling programs and tools;
4) Leverage national partnerships for grants, loans and assistance; and
5) Treat non-recycled plastics as valuable materials for conversion to fuels and chemicals.

ACC appreciated the opportunity to testify on June 21st in Hartford and also provide written comments. Please consider using the recommendations outlined in our detailed comments below as the Task Force considers its final recommendation. ACC would be pleased to be an ongoing partner with the Task Force to help reduce waste and then recycle and recover more of Connecticut's post-use plastics. I can be reached by phone at (202) 249-6622 or by email at craig_cookson@americanchemistry for any questions or additional information.

Sincerely,

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ACC comments to the Connecticut Task Force to Study Methods for Reducing Consumer Packaging that Generates Solid Waste

Plastics Contributions to Sustainable Materials Management

Plastics help us to do more with less in many ways. Because they're durable, lightweight, and versatile, the use of plastics can help reduce waste and the consumption of energy. Lighter packaging can mean that lighter loads or fewer trucks and railcars are needed to ship the same amount of product, helping to reduce transportation energy, decrease emissions and lower shipping costs.[4]

Plastics Recycling Today

Plastics' recycling creates economic and environmental value. The *2015 United States National Postconsumer Plastics Bottle Recycling Report* found that the total pounds of plastic bottles collected for recycling in 2015 was nearly 3 billion pounds.[5] The two main types of bottles that are recycled are polyethylene terephthalate (PET) and high density polyethylene (HDPE). PET is often found in water and soda bottles and HDPE is often found in milk jugs and detergent bottles.

ACC tracks the recycling of plastic wraps, film, and bags. This category of plastics includes commercial shrink wrap, plastic wrapping around consumer products such as paper towels and bathroom tissue, protective packaging such as bubble wrap, and ordinary plastic shopping bags. The *2015 National Postconsumer Plastic Bag & Film Recycling Report* found that 1.2 billion pounds of postconsumer plastic film was recovered for recycling in 2014.[6] This represents an 83% increase since 2005.[7] Film, bags, and wraps can become contaminated when mixed with other materials, so are best not collected curbside. These materials can be collected at 18,000+ locations including most major grocery stores and retailers. Several years ago, ACC formed the Flexible Film Recycling Group (FFRG) to work to increase the recycling of polyethylene film. Its goal is to double polyethylene film recycling by 2020.

ACC also tracks the collection of non-bottle rigid plastics collected for recycling. Non-bottle rigid plastics can be found in many forms such as tubs, containers, lids, cups and clamshells as well as larger "bulky" items such as buckets, crates, toys, and laundry baskets. The *2015 National Postconsumer Non-Bottle Rigid Plastic Recycling Report* found that over 1.24 billion

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[4] Impact of Plastics Packaging on Life Cycle Energy Consumption & Greenhouse Gas Emissions in The United States and Canada. 2014 http://plastics.americanchemistry.com/Education-Resources/Publications/Impact-of-Plastics-Packaging.pdf

[5] The 2015 United States National Postconsumer Plastic Bottle Recycling Report. https://plastics.americanchemistry.com/2015-United-States-National-Postconsumer-Plastic-Bottle-Recycling-Report.pdf

[6] The 2015 National Postconsumer Plastic Bag & Film Recycling Report https://plastics.americanchemistry.com/2015-National-Post-Consumer-Plastic-Bag-and-Film-Recycling-Report.pdf

[7] Ibid

pounds of postconsumer non-bottle rigid plastic was recovered for recycling.[8] Non-bottle rigid plastic recovered has quadrupled since 2007.[9] The emergence of many domestic markets for non-bottle rigid plastics has led to an increasing number of cities and counties collecting these plastics for recycling. The *Plastics Recycling Collection National Reach Study: 2012 Update* found that over 60% of the United States population has some form of access to recycle non-bottle rigid containers.[10] Further, the increased amount of recycled material has driven increased reclamation opportunities in the United States.[11]

Finally, while increased recycling is always laudable, we would note that even today Connecticut landfills only 8% of the post-use waste it produces each year[12] – a smaller amount than the other 49 states and District of Columbia. This remarkable accomplishment comes from a combination of recycling, composting, and traditional waste-to-energy. While source reduction, reuse, recycling and composting are higher on the solid waste hierarchy than energy recovery, it is still an impressive feat.

Programs to Increase Plastics Recycling

ACC commends the Task Force for focusing on recycling more valuable post-use packaging from landfill. We believe Connecticut could benefit from leveraging ACC and our partners' education, outreach and technical assistance programs. Below are some recommendations on programs that can deliver results for increasing plastics recycling.

1) Pursue sustainable materials management as the long term goal.

Plastics are an important component to preventing wastes, such as food waste, from materializing. We recommend that the state consider an approach known as "sustainable materials management" that is consistent with the approach the U.S. Environmental Protection Agency (EPA) recently adopted.[13] Sustainable materials management utilizes a holistic approach, such as life cycle analysis, as a tool to evaluate the full range of potential environmental impacts (e.g., greenhouse gas (GHG) emissions, energy, water, etc.) attributed to material use. ACC's life cycle inventories on plastics packaging,[14] including flexible coffee

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[8] 2015 National Postconsumer Non-Bottle Rigid Plastic Recycling Report. https://plastics.americanchemistry.com/2015-National-Post-Consumer-Non-Bottle-Rigid-Plastic-Recycling-Report.pdf

[9] Ibid.

[10] Plastic Recycling Collection National Reach Study: 2012 Update, http://plastics.americanchemistry.com/Education-Resources/Publications/Plastic-Recycling-Collection-National-Reach-Study-2012-Update.pdf

[11] 2014 National Postconsumer Non-Bottle Rigid Plastic Recycling Report. https://plastics.americanchemistry.com/Education-Resources/Publications/2014-National-Report-on-Post-Consumer-Non-Bottle-Rigid-Plastic-Recycling.pdf

[12] 2014 Energy and Economic Value of Municipal Solid Waste (MSW), Including Non-Recycled Plastics (NRP), Currently Landfilled in the Fifty States. https://www.americanchemistry.com/Policy/Energy/Energy-Recovery/2014-Update-of-Potential-for-Energy-Recovery-from-Municipal-Solid-Waste-and-Non-Recycled-Plastics.pdf

[13] U.S. Environmental Protection Agency Sustainable Materials Management. http://www.epa.gov/smm

[14] Impact of Plastics Packaging on Life Cycle Energy Consumption & Greenhouse Gas Emissions in the United States and Canada. http://plastics.americanchemistry.com/Education-Resources/Publications/Impact-of-Plastics-Packaging.pdf

packaging,[15] tuna packaging,[16] and high density polyethylene (HDPE) milk jugs[17] provide examples of how source reductions from plastics packaging can lead to important environmental benefits even if these packages are not mechanically recycled.

Moreover, focusing on just the recycling rate can be counterproductive. For example, composting or anaerobic digestion of organic waste is often counted as recycling. And, because a large portion of organic waste is landfilled, increased diversion of organic material is often viewed as a prime opportunity to increase diversion rates. However, ACC encourages Connecticut to explore the fact that a truly sustainable materials management approach recognizes the critical role that sophisticated packaging plays in preventing food from being wasted in the first place. It also recognizes the greater environmental benefits from preventing food waste compared to the environmental benefits of treating organics after foods have already spoiled.[18] EPR policies ignore other sustainability considerations including greenhouse gas emissions and incentivize recycling at the expense of other environmental considerations.

2) Enforce existing laws and regulations and pursue collaborative policy approaches.

Quite simply, closing enforcement gaps and demonstrating an ability to enforce existing recycling laws and regulations should be pursued before new radical recycling schemes are enacted. Additionally, Connecticut's existing bottle deposit law presents an opportunity to support recycling broadly. Unlike most other states, unclaimed bottle deposit receipts are not specifically earmarked to support local recycling programs or other statewide environmental programs. Using data collected by Connecticut's Department of Energy and Environmental Protection (DEEP), ACC estimated that these bottle "escheats" amounted to over $20 million in 2015, and over $186 million from 2009 – 2015. One Task Force member suggested the amount was actually closer to $30 million in 2015.

Regardless, because of a 2008 law, these bottle escheats have been directed to Connecticut's general fund and are spent on unrelated programs. Funding was listed by stakeholders as an acute challenge for enforcement activities. ACC recommends that Connecticut look to earmark its unclaimed bottle deposits to recycling activities before seeking out new sources of funding. Connecticut also has existing laws and regulations for mandatory recyclables, commercial generators and multi-unit residential dwellings. Yet according to DEEP's "2016 Comprehensive Materials Management Strategy: The Connecticut Solid Waste Management Plan" these regulations are poorly enforced.[19]

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[15] LCI for Eight Coffee Packaging Systems. http://plastics.americanchemistry.com/LCI-Summary-for-8-Coffee-Packaging-Systems

[16] LCI Summary for Six Tuna Packaging Systems. http://plastics.americanchemistry.com/LCI-Summary-for-6-Tuna-Packaging-Systems

[17] LCI Summary for Four Half-Gallon Milk Containers. http://plastics.americanchemistry.com/LCI-Summary-for-4-Half-Gallon%20Milk%20Containers

[18] U.S. Environmental Protection Agency. Sustainable Management of Food. https://www.epa.gov/sustainable-management-food/food-recovery-hierarchy

[19] 2016 Comprehensive Materials Management Strategy: The Connecticut Solid Waste Management Plan. http://www.ct.gov/deep/lib/deep/waste_management_and_disposal/Solid_Waste_Management_Plan/CMMS-Final_Adopted_Comprehensive_Materials_Management_Strategy.pdf

3) **Embrace Voluntary Plastics Recycling Programs and Tools**

ACC is pleased that Connecticut is a WRAP partner. Increasing the recycling of plastic film, wraps and bags represents a major opportunity to help Connecticut meet its objectives. Clean polyethylene film is a valuable feedstock for manufacturers and most major retailers in the United States collect post-consumer plastic wraps, bags and film at front-of-store locations. The WRAP program promotes brand owner adoption of the Sustainable Packaging Coalition's (SPC) "How to Recycle Label." ACC is also pleased that Connecticut's DEEP has begun to promote standardized plastics terms and images as a best practice for community education programs. DEEP can continue to encourage its communities to fully utilize the Plastics Recycling Terms and Tools to increase collection of post-use plastics and align with its goal of generating more reliable tracking and measurement data.

4) **Leverage National Partnerships for Grants, Loans and Technical Assistance**
Communities in Connecticut could benefit from two significant multi-million dollar initiatives led by the private sector. These initiatives are directly investing in communities and recycling systems across the country. The Recycling Partnership (TRP), of which ACC is a funder and board member recently partnered with the Massachusetts Department of Environmental Protection (DEP) to reduce contamination and drive the collection of more and better material for recycling.[20] Another important organization is the Closed Loop Fund (CLF), which was founded by Walmart and nine major global brands to provide no-interest loans to communities and private entities. The CLF recently provided important investment capital for a new plastics recovery facility (PRF) in Baltimore, Maryland.[21] DEEP should explore a direct partnership with TRP and encourage its communities to apply for grants or loans from TRP or CLF. Lastly, Connecticut should support the Grocery Rigid Plastic Recycling Program.[22] Research has shown that grocery store delis, bakeries, fish markets, and pharmacies use significant quantities of high-value rigid plastics every day. These plastics are often larger, bulkier items that contain things like cake batter, frosting, and fish fillets. Growing the total supply of non-bottle rigid plastics available for reclamation in Connecticut could potentially help establish markets for smaller communities as well.

5) **Treat Non-Recycled Plastics as Valuable Materials for Conversion to Fuels and Chemicals**

Encouraging new recovery technologies should aid Connecticut as it works to increase its total diversion rate from landfill. Unfortunately, many states have yet to recognize the growing range of technologies available to convert post-use resources into useful products and materials. As a result, entrepreneurial manufacturers who seek to convert post-use materials into valuable products often are forced into regulatory schemes for recycling or disposal, when neither is an appropriate fit. Consider pyrolysis, an oxygen free process that can convert post-use, non-recycled plastics into transportation fuels or chemical feedstocks for new plastics. Many state

[20] MassDEP to Collaborate with The Recycling Partnership. https://www.recyclingtoday.com/article/massdep-the-recycling-partnership-collaborate/
[21] QRS and Canusa Hershman Open Plastics Recycling Facility in Maryland. https://www.recyclingtoday.com/article/qrs-canusa-hershman-partner-plastics-recycling-plant
[22] Recycle Grocery Rigid Plastics website. http://www.recyclegroceryplastics.org/

waste and recycling regulations were promulgated before these pyrolysis technologies were commercially viable, and as a result these facilities often are mischaracterized as waste disposal. However, these facilities receive a feedstock, in this case post-use plastics, and produce a marketable commodity. These are manufacturing facilities, not waste disposal facilities. ACC developed a "Regulatory Treatment of Plastics-to-Fuel Facilities" document to provide permitting guidance to state and local regulators.[23] It includes a checklist of the typical federal, state, and local permits that are required to operate these facilities. These technologies also have considerable environmental benefits compared to disposing these resources in landfill. The U.S. Department of Energy's Argonne National Laboratory recently concluded that converting post-use, non-recycled plastics to ultra-low sulfur diesel reduces greenhouse gas emissions, energy and water use compared to ultra-low sulfur diesel derived from conventional petroleum. The findings were recently published as a peer-reviewed article in the scientific journal "Fuel."[24]

ACC appreciated the opportunity to testify and provide written comments to the "Connecticut Task Force to Study Methods for Reducing Consumer Packaging that Generates Solid Waste."

[23] Regulatory Treatment of Plastics-to-Fuel Facilities. http://plastics.americanchemistry.com/Product-Groups-and-Stats/Plastics-to-Fuel/Regulatory-Treatment-of-Plastics-to-Fuel-Facilities.pdf

[24] "Life Cycle analysis of fuels from post-use non-recycled plastics." Pahola Thathiana Benavides, Pingping Sun, Michael Wang and Jennifer B. Dunn. Fuel. Volume 203, 1 September 2017, Pages 11-22. http://www.sciencedirect.com/science/article/pii/S0016236117304775