POST 7 – Current Topic: Connecticut Scenario

February 2022

The current Connecticut "Waste to Resources" scenario focuses on a current challenge facing Connecticut - 1 lb single-use camp stove canister, part of a larger product category of materials called "fuel or gas cylinders." The question is how to best manage and could an EPR approach provide the best solution?

How Should 1lb Gas Cylinders be Managed in Connecticut?

1. What are gas cylinders?
2. What type of gas is used in 1lb gas cylinders used for camping?
3. How are 1lb gas cylinders disposed in Connecticut?
4. Would Extended Producer Responsibility (EPR) be a good policy strategy to manage gas cylinders?
    a. Will it give residents a way to properly dispose of them?
    b. Will it help reduce costs (to municipalities)?
    c. Will it maximize recycling of the cylinder?
    d. Will it reduce hazards associated with employee safety and/or environmental pollution?
    e. Will it provide refillable/reuse opportunities instead of single-use cylinders?
5. What are the risks associated with taking the regulators off the 1lb gas cylinders? Why don't municipal staff remove them?
6. How are State parks or other CT campgrounds managing 1lb gas cylinders?
7. How would a refillable program work in Connecticut?
    a. Ex. Do-it-Yourself refill or an exchange program?
    b. Would an exchange program be good to have at State parks?

Gas Cylinders

Fuel or gas cylinders is the term used to describe oxygen tanks, fire extinguishers, and the small 1 lb camping canisters. They contain a variety of gasses, all under pressure, making them a hazardous item that is difficult to manage. The 1lb camping canisters are filled with propane gas.

The Problem

Gas cylinders are dangerous when disposed of improperly. Even when we think they're empty, small amounts of gas can remain that can cause explosions and fires at recycling facilities, waste facilities and even municipal transfer stations.

In Connecticut, a recycling facility or waste disposal site have estimated one explosion a week due to gas cylinders, especially the 1 lb camping propane canisters, placed in recycling and trash bins.

- Metal recyclers typically refuse to accept cylinders unless they are visibly punctured and crushed.
- Because of the risks, many Connecticut municipalities do not want their staff to puncture canisters or remove the regulators which needs to happen before they can be flattened or compacted for recycling for fear of small amounts of gas remaining in the cylinders.
- Connecticut DEEP instructs residents to *not* put them in the trash or recycling. Connecticut DEEP suggests residents ask their towns about disposal options.
- When residents contact their towns for how to manage outside of trash and recycling, towns also do not always have the answer. Many towns accept fuel cylinders, including 1 lb camping propane canisters at their local household hazardous waste collection events, but not all Connecticut towns coordinate such events, and disposal of 1lb gas cylinders is expensive.
- Despite being told to not put in trash or recycling, residents often do. And many people toss them in the trash or leave them at roadsides and campsites.
- Our local, state, and national parks have to manage this excessive metal waste at taxpayers' expense while the producers of these cylinders profit from the sales.

WATCH: Fuel Cylinder Explosion at a Connecticut MRF video of a Materials Recovery Facility that processes recyclables

WATCH: Explosion at MIRA video at MRF in Hartford

WATCH: Interview: Tom Gaffey, Material Innovation Recovery Authority (MIRA)

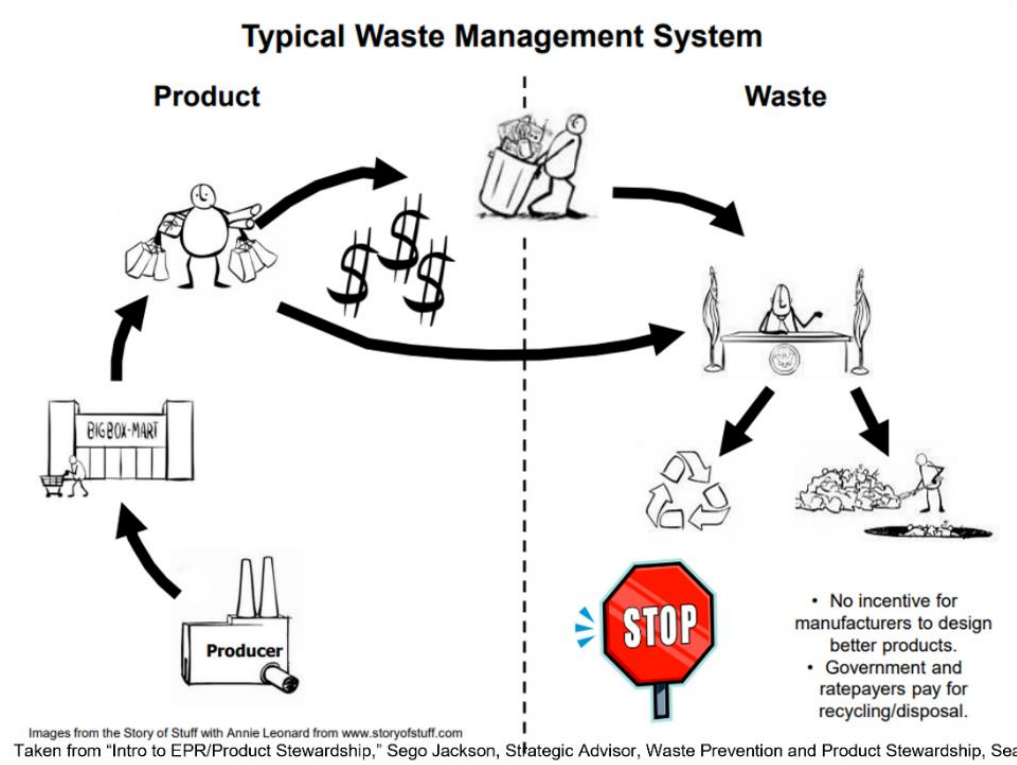
How to Best Manage 1lb Gas Cylinders?

WATCH: Interview: Jennifer Heaton-Jones, Housatonic Resources Recovery Authority

Product/Stewardship EPR: What is EPR Intended to DO?

- EPR laws should include language that provides an incentive to encourage better designs for packaging and/or products to reduce toxicity or ensure reuse or recycling;
- Contain system costs (incl. costs to municipalities) and provide cost efficiencies;
- Invest in recycling infrastructure at MRFs (Materials Recovery Facility), collection methods to more efficiently capture and recycle light-weight or difficult to recycle materials; and
- Develop healthy and robust markets for problematic packaging

Product/Stewardship EPR: How Does It Work?



Typical Waste management system: products manufactured, sold to consumers at retail, leaving residents and municipalities to pay for the disposal at the end-of-life of that product; or dispose of excess packaging and non-recyclable packaging. There are no incentives of manufacturers to design better products (so they last longer; can be repaired) or how those products are packaged. Municipalities and residents pay the cost of disposal/recycling.

EPR as a concept/approach

From Australian Environmental Protection Agency: Report on EPR Consultation Final.doc (nsw.gov.au)

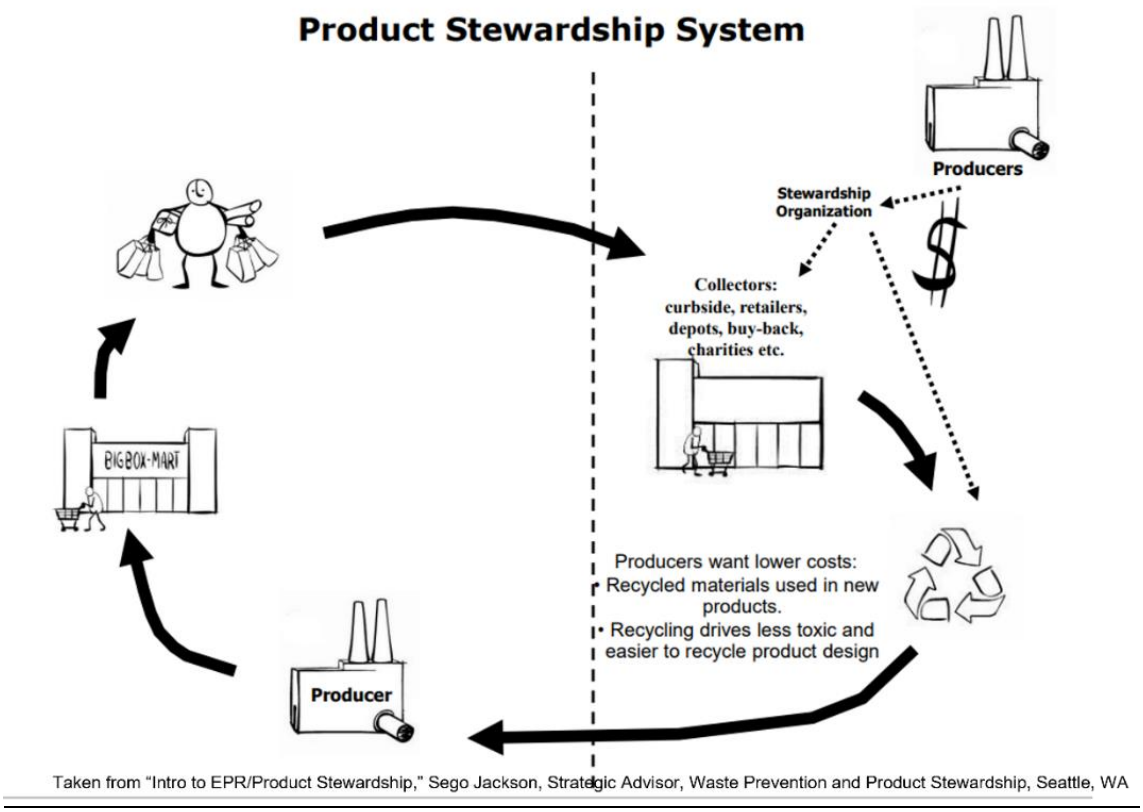
In general the community's response to the proposals on EPR schemes for New South Wales was positive, although there were some differences in attitude between the sectors that responded. Environment groups: The six environment groups were highly supportive of the new policy approach.

Comments included:

- EPR has a critical place in waste avoidance and reduction because it promotes better design of consumer products and stimulates cleaner production strategies in industry.
- EPR can significantly reduce environmental contamination and health risks to communities.
- EPR must be used as a tool to move the production/consumption cycle from reuse up to the pinnacle of the waste hierarchy: avoidance.

• EPR is a key policy for the management of waste and resource recovery across New South Wales and Australia. It redirects the costs of managing the waste stream to those companies and industries that are responsible for the production of waste in the first place. EPR not only penalizes the poor performers but can also create a more equitable cost base for responsible companies that embrace cleaner production and waste avoidance.

This report included 16 products of concern, which included EPR model to manage gas cylinders and fire extinguishers.



Product Stewardship system: products manufactured, sold to consumers at retail, consumers/residents return products and/or packaging back to manufacturers (via retail stores, curbside collection or transfer stations); municipalities share the cost or pay nothing for the disposal at the end-of-life of that product; manufacturers, being responsible to collect, recover and recycle or properly dispose of materials provides an incentive to design products for better reuse; packaging that can be easily recovered for recycling or reduce certain types of packaging.

"Gas cylinders, such as propane canisters used in barbecues and camping stoves, are dangerous when disposed of improperly. Even when presumed empty, small amounts of remaining gas can cause explosions and fires. Because of the risks, they are costly to recycle, and recycling options are few. As a result, many people toss them in the trash or leave them at roadsides and campsites. Connecticut state and local governments have been left to pay for and manage the tens of thousands of cylinders that get disposed of or littered in the state each year at taxpayers' expense." Scott Cassel, Executive Director, Product Stewardship Institute - Public Hearing Testimony, February 2021

Connecticut Municipalities Respond to the Problem

In the 2021 legislative session, the Connecticut Product Stewardship Council, a coalition of municipal governments and others, sought to pass an EPR law requiring manufacturers of single-use 1lb gas cylinders (which includes oxygen tanks, fire extinguishers and camping canisters) to create a stewardship program that would include collection and recycling the gas cylinders at no cost to residents or municipalities. Due to interest in other EPR programs, it eventually was folded in with other pieces of legislation becoming House Bill No. 6386, adding tires and smoke detectors. It did not pass.

> "Municipalities across CT are facing significant challenges in managing pressurized gas cylinders. Challenges include disposal costs, storage requirements, safety concerns including explosions in trucks and at both trash and recycling facilities, injuries, damaged equipment and litter at local parks. As a member of the CT Product Stewardship Council, the City of Middletown supports an EPR proposal to develop a program to make it easier for residents to recycle these containers. It is important that all tanks up to 20 lb be included in this proposal and that it includes oxygen, helium and any other pressurized gas. These items often end up at our transfer station, or illegally dumped, and ultimately brought to our transfer station. Collection services from the transfer station can be unpredictable. Sometimes the City will wait weeks for the tanks to be collected. An effective EPR would alleviate these problems, making it easier for residents, less burdensome to municipal transfer stations and safer for everyone. The CT Product Stewardship Council has initiated dialogue with all stakeholders and drafted comprehensive language for this program." – Kim O'Rourke, Recycling Coordinator, City of Middletown - Public Hearing Testimony, February 2021

WATCH: Interview Brian Bartram, Manager, Salisbury/Sharon Transfer Station

Manufacturers that make 1lb gas Cylinders Respond to the 2021 Legislation

> "We present today on behalf of Worthington Industries, one of the last remaining U.S. manufacturers of gas cylinders. We implore you to not support this (EPR) bill as we believe it would have an unintended but severe impact, not only on our industry, but on the many industries we support. We join you in the desire to improve the recycling of gas cylinders, but this is not the way to do it. These products play an important role in meeting your constituents' needs. However, the handling of these products as a "hazardous material," as required by the United States Department of Transportation (DOT), is complex and requires several parties working together. We would like to work with you and the industry on a solution. This (EPR) bill is not the solution."
>
> "The safety of our cylinders is of utmost importance to us. We stand behind our products and our safety record leads the industry. We are constantly evaluating our cylinders for safety and durability. We believe that our small, non-refillable camping gas cylinders are the safest option for consumers. Refilling propane cylinders by untrained individuals is dangerous. Overfilling of cylinders can result in an unexpected discharge of flammable gas from the cylinder or the potential for the cylinder to unexpectedly rupture resulting in property damage, personal injury and/or death."
>
> "For our non-refillable gas cylinders, there are ways they can be recycled. Recycling of our products has been gradually increasing for many years, but because of the DOT's hazardous material designation and the decentralized waste management across the country, it's extremely complicated." - Paul Gentry, Worthington Industries - Public Hearing Testimony, February 2021

WATCH: Interview Peter Hargreaves, Policy Integrity Consulting

Connecticut Coalition for Sustainable Materials Management

In late summer of 2020 CT DEEP and municipal officials from around the state joined forces to identify solutions to the impending "waste crisis" in Connecticut due to the decision by MIRA to close it's waste to energy facility in Hartford. The result was the formation of the Connecticut Coalition for Sustainable Materials Management (CCSMM of the Coalition). News that MIRA's waste-to-energy facilities – a facility that burns about 1/3 of Connecticut's waste is scheduled to close in the summer of 2022.

Four working groups were formed – focusing on different solutions including 1. Recycling; 2. Organics recycling; 3. pay-as-you-throw; and 4. extended producer responsibility (EPR). After meeting, learning, and discussing how and if these approaches would benefit Connecticut – a Menu of Options was created.

The intention of a list of options, was that each municipality would begin implementing actions that were attainable for them – including starting textile recycling program or home composting education to partnering with business partner to establish a food-scrap composting program or piloting a new way of reducing waste and collecting food scraps referred to as co-collection – to supporting different EPR programs.

The CCSMM Menu of Options includes acting on EPR approach to manage gas cylinders – a broader list of gas cylinders which includes 1lb propane camping canisters.

State and Private Campgrounds in Connecticut

According to DEEP, thousands of campers and others that picnic dump thousands of gas cylinders every year. Currently there are no programs in place for how to properly manage these gas cylinders. Along with municipalities, campground operators are seeking solutions to collect and recover gas cylinders in a safe way and ensure they are recycled – or safe and easy reuse/refill options should be offered.

While gas cylinders have scrap metal value, they must be emptied of all gas beforehand which makes them expensive and problematic for campground operators like that are for municipalities to manage.

National Parks, including Yosemite have also been challenged by gas cylinders left by campers – but a lot more than a few thousand. They ended up partnering with a company that made it safer for Parks staff to process the gas cylinders – collecting the gas and leaving a metal "puck" to be recycled. It's been reported these machines are over $60,000 and require some training.

Some options municipalities are considering, including EPR:

1. Continue to accept in Household Hazardous Waste events
    a. Challenge: Not all residents have access to Household Hazardous Waste Events.

2. Accept 1lb gas cylinders at municipal trash and recycling transfer stations
    a. Train staff to remove regulators and release the gas into the atmosphere, removing pressure so it can be put with scrap metal recycling.
    b. Challenge: Is this safe?
    c. What happens to the gas? Will this contribute to greenhouse gas emissions?

3. Propose an EPR law for 1 lb camping gas canisters
    a. This would require manufacturers of 1 lb camping canisters to pay for and develop a program that would collect and recycle used canisters.
        i. Would this give residents greater access to properly dispose of gas canisters?
        ii. Could a refillable or exchange program also be implemented as part of this? Or is just about recycling?
        iii. Could State or local camping grounds participate in this program?

4. Encourage entrepreneur or existing refill/exchange program to set up business in Connecticut to offer refillable camping canisters and/or an exchange program.
    a. Could State or local camping grounds participate in this program?
    b. Would campers pay the extra cost to be able to refill or reuse 1 lb gas cylinders?
    c. Would residents have access to this program?

CT Essential

- Collection of Gas Cylinders & Tanks, powerpoint presented by Lori Vitagliano, Regional Water Authority, New Haven, CT
- STOP! Never refill 1 lb. propane bottles STOP! Never refill 1 lb. propane bottles - YouTube
- So it turns out… propane cylinders are dangerous So it turns out that . . . propane cylinders are dangerous (Sunnydale, CA)- YouTube
    - Home | ReFuel Your Fun
- Why Don't All National Parks Recycle Propane Canisters? (article) https://www.outsideonline.com/outdoor-gear/camping/propane-canister-recycling-national-parks/
- Little Kamper - Propane Cylinder Recycling Facts https://littlekamper.com/safety/propane-cylinder-recycling-facts/#:~:text=6.,in%20North%20America%20every%20year.
- Can You Throw Away 1-Pound Propane Cylinders? (canyouthrowitaway.com)

- Refillable/Exchange programs: 40 Million Reasons to Change (video) https://www.youtube.com/watch?time_continue=2&v=qYmSdyWX8NM&feature=emb_logo

CT Good Resources

- Intro to EPR/Product Stewardship, 2019 powerpoint presented by Sego Jackson, Seattle, WA
- Recycling Propane Grill Tanks (ct.gov)
- Our Machines — Propane Bottle Recycler (used by Yosemite National Park)

CT Resources if you want to know more/dig deeper

- CT House Bill No. 6386
  - Public Hearing Testimony C G A (ct.gov) (gives us a sense of different stakeholders and their views or opinions of how this legislation would impact them
- Connecticut's Regulation of Propane (to heat homes – provides good information about propane gas)
- EPR Working Group for the Connecticut Coalition for Sustainable Materials Management Extended Producer Responsibility (EPR) Working Group (ct.gov)
- **Learn about Compressed Gas: YouTube Videos**
  Gas can compress - YouTube
  Compressing a gas in a fire piston - YouTube
  Why Do Compressed Air Cans Get Cold? - YouTube
  Gases and Gas Laws - YouTube
  The Behavior of Gases | Chemistry for Non-Majors (lumenlearning.com)
- **Compress Gas Safety Training: YouTube Videos**
  PWTV: Handling Gas Cylinders Safely - YouTube
  Basics of Compressed Gas Hazards - YouTube
- **Material Safety Data Sheets: YouTube Video**
  Safety Data Sheet (SDS) - Video 2 - YouTube