

FIRES CAUSED BY LITHIUM
BATTERIES IN U.S. AND
CANADIAN RECYCLING
FACILITIES ON THE RISE

ACCORDING TO THE US DEPARTMENT OF ENERGY WHEN LITHIUM BATTERIES ARE DAMAGED, THEY CAN CAUSE A FIRE HAZARD...

- Lithium Batteries can create their own oxygen so they can nourish their own fire, often undercover.
- Flames can burn at excess of 2,200 degrees Fahrenheit.
- Many batteries are hidden in products such as musical greeting cards.
- Lithium batteries emit toxic chemicals such as fluoride gas once they combust.
- Many of these fires are undetectable until the fire is past the point of normal suppression systems.

OAK RIDGE WASTE & RECYCLING INCIDENT 2023



Timelapse



12:13 AM



1:53 AM



2:43 AM



Flames detected at 2:50 AM

Fire department arrived on scene at 3 AM





- 18 out of town fire departments responded –
- Monroe
- Stratford
- Ansonia
- Bethany
- Seymour
- Derby
- Orange
- Trumbull
- Oxford
- Beacon Falls
- Prospect
- Ridgefield
- Woodridge
- Redding

Firefighters battled the blaze for 30+ hours due to the heavy volume of fire





Post Fire Devastation

- 45 employees lost their jobs due to the fire.
- 15 million dollars worth of damage.
- The recycling plant is estimated to be closed for around 10 months taking infrastructure out of the CT recycling program that processed approximately 6,000 tons of single stream material a month.

Post Fire Devastation





Equipment Damage

EXAMPLES OF COMMON ELECTRONIC DEVICES CONTAINING LITHIUM CELLS OR BATTERIES



**VIDEO GAMING
EQUIPMENT**



**ALARM SYSTEMS &
DETECTORS**



**EBIKES, ESCOOTERS &
HOVERBOARDS**



**ELECTRONIC
BATHROOM TOOLS**



TABLETS



CAMERAS



VAPES



**MUSICAL
GREETING CARDS**



LAPTOPS



POWER TOOLS



SMART WATCHES



**PHONES
& CHARGERS**

Please do NOT put these in your trash or recycling as they are hazardous materials and highly flammable making them unsafe for our facilities and employees

Fires at other MRF's caused by Lithium Batteries

- In 2022, the New York City Fire Department reported 191 fires, 140 injuries and 6 deaths due to lithium battery fires.
- In 2022, Rumpke reported 66 battery related fires in their facility in Columbus, OH.
- In 2023, Metro Site Recycling Facility in Commerce, Georgia had a fire due to lithium batteries resulting in \$26.5 million in damages.
- Metro site obtained this picture of what they say are dozens of burned lithium-ion batteries discovered in the fire debris.



Fires at other MRF's caused by Lithium Batteries

- Penn Waste in Manchester, PA
- Flames & water damage wiped out all the facilities equipment and controls.
- Investigation revealed that the cause of the fire was a rechargeable lithium battery.
- The fire caused \$36 million dollars in damages.
- The fire caused the plant to be shut down for over a year.



Fires at other MRF's caused by Lithium Batteries

- Four alarm fire in San Carlos, California
- The fire caused \$6.8-million in damages, leading it to shut down for over four months and putting 70 employees out of work.
- The fire's aftermath proved to be financially devastating. These fires are illuminating a broader issue, one that's growing in severity across the country with the boom in renewables, electric cars, and devices, threatening recycling systems and infrastructure.
- Lithium-ion batteries fires have become more frequent: Just two were recorded in 2013, but since 2017, there have been double-digit fires almost every year.



- “The number of major fires reported at plants in the U.S. and Canada has increased by more than third since 2017”
- “Call to Recycle estimates that 58 million pounds of lithium-ion batteries reached the end of their useful life in 2020”



2023 COMPARED TO PRIOR YEARS REPORTED WASTE & RECYCLING FACILITY FIRES

Year	Total Year
2023*	243*
2022	390
2021	367
2020	317
2019	345
2018	365
2017	292
2016	272

* Through July

Recycling plant fires in the U.S. and Canada

The number of fires at recycling plants have been increasing over the years.

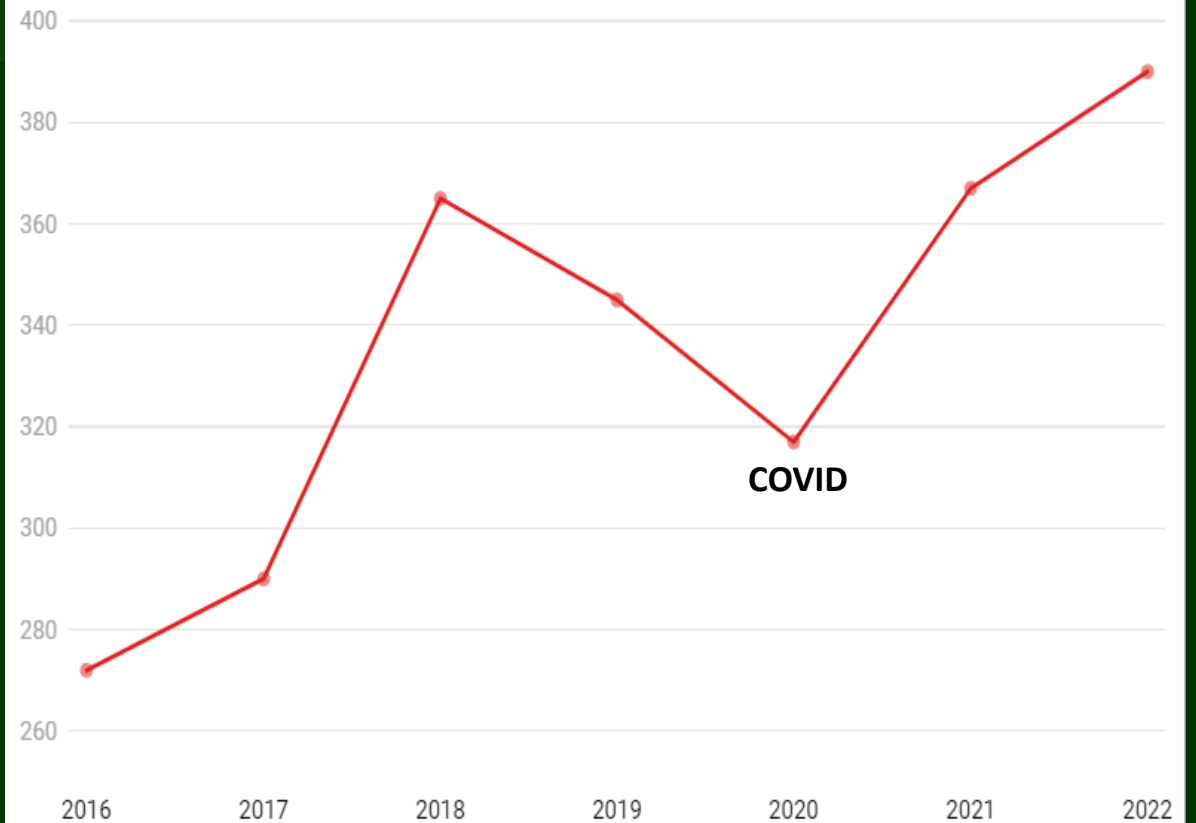


Chart: Ciara Nugent • Source: Ryan Fogelman, Fire Rover

TIME

Nugent, Ciara. “Why Recycling Plants Keep Catching on Fire.” *Time*, Time, 13 Apr. 2023, time.com/6271576/recycling-plant-fire-indiana/.
 09, Ryan Fogelman | Aug. “Waste and Recycling Fire Report: Achieving the Best Case from a Worst-Case Scenario.” *Waste360*, 9 Aug. 2023, www.waste360.com/waste/waste-and-recycling-fire-report-achieving-best-case-worst-case-scenario.

What do we need to do about it?

- State of CT needs to mandate information on products and at point-of-sale, warning about the risks of end-of-life disposal in unauthorized waste streams.
- Manufacturers need to address the lack of disposal/recycling infrastructure for lithium batteries.
- Establishment of timely achievable goals, disposal/recycling options & convenience, and public education.
- Legislation is needed to mandate policies moving forward.
- EPR is a policy approach that assigns producers responsibility for the end-of-life of products.
- Current EPR programs include the following – Paint, Mattress, Mercury Thermostats, Gas Cylinders (2023), Tires, Electronic waste - consists of computers, monitors, printers & televisions (not lithium batteries).