

NO FILTER: THE TRUTH ABOUT TOBACCO PRODUCT WASTE IN NEW YORK STATE

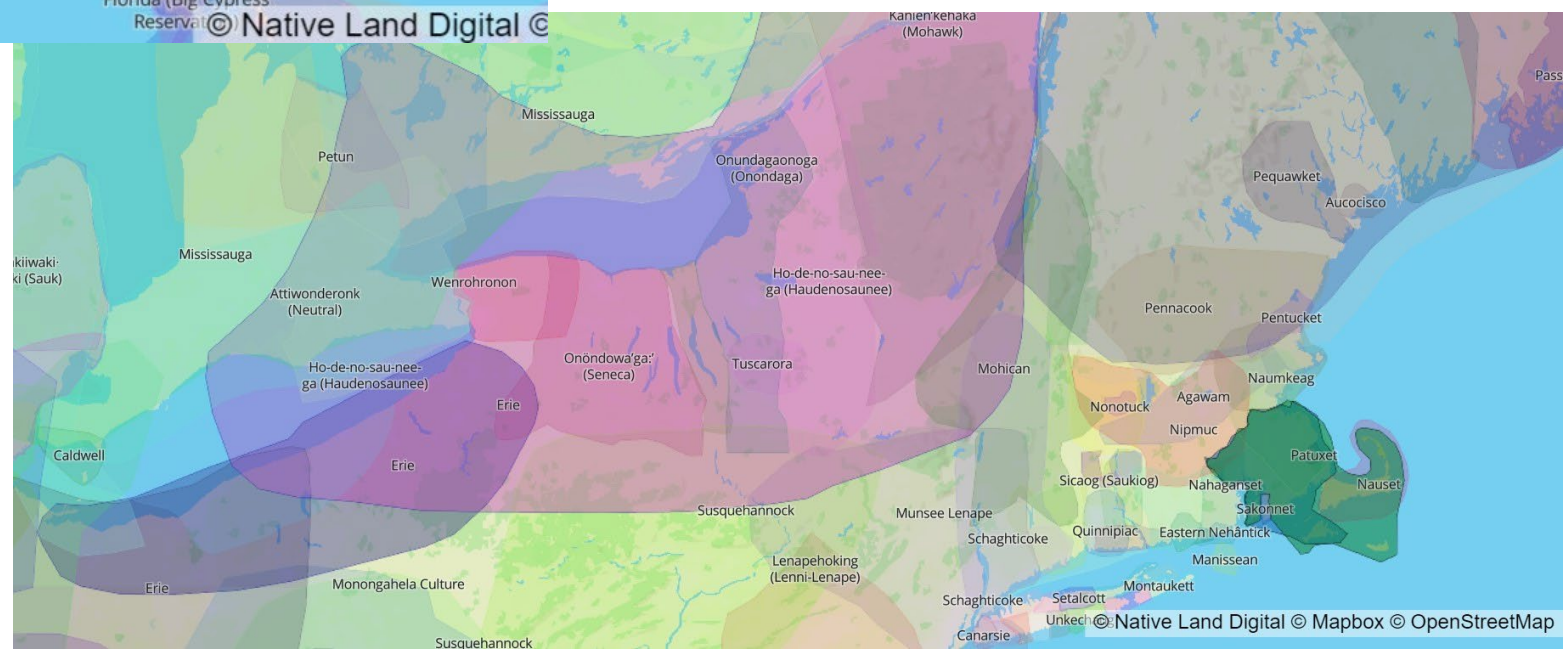


PUBLIC HEALTH
LAW CENTER
at Mitchell Hamline School of Law



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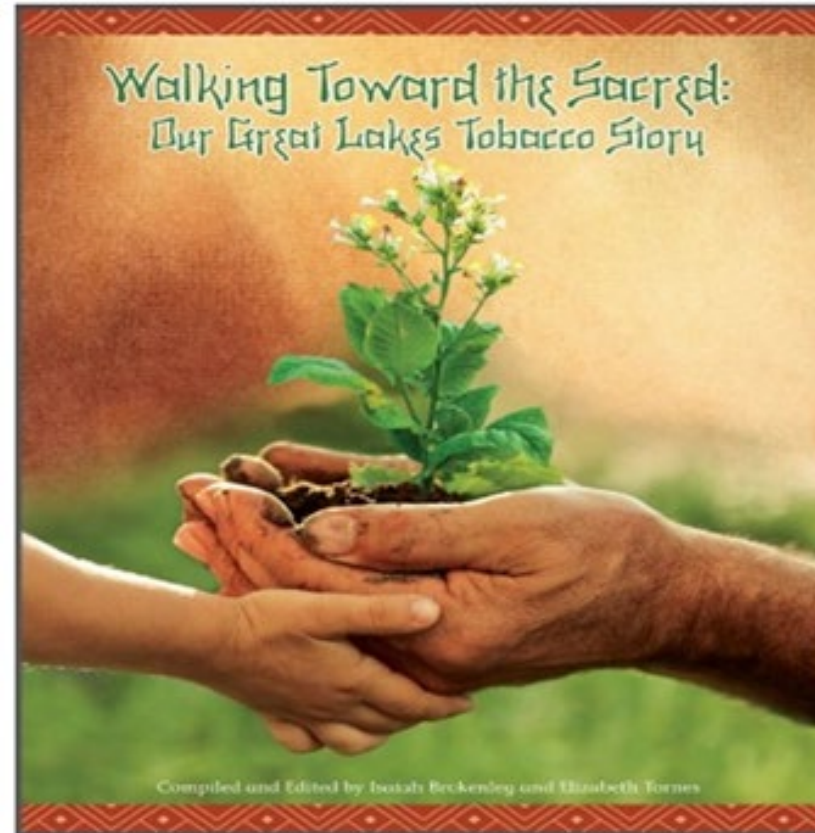
LEGAL TECHNICAL ASSISTANCE

-  Legal Research
-  Policy Development, Implementation, Defense
-  Publications
-  Trainings
-  Direct Representation
-  Lobby

COMMERCIAL TOBACCO V TRADITIONAL USE



keepitsacred.itcmi.org



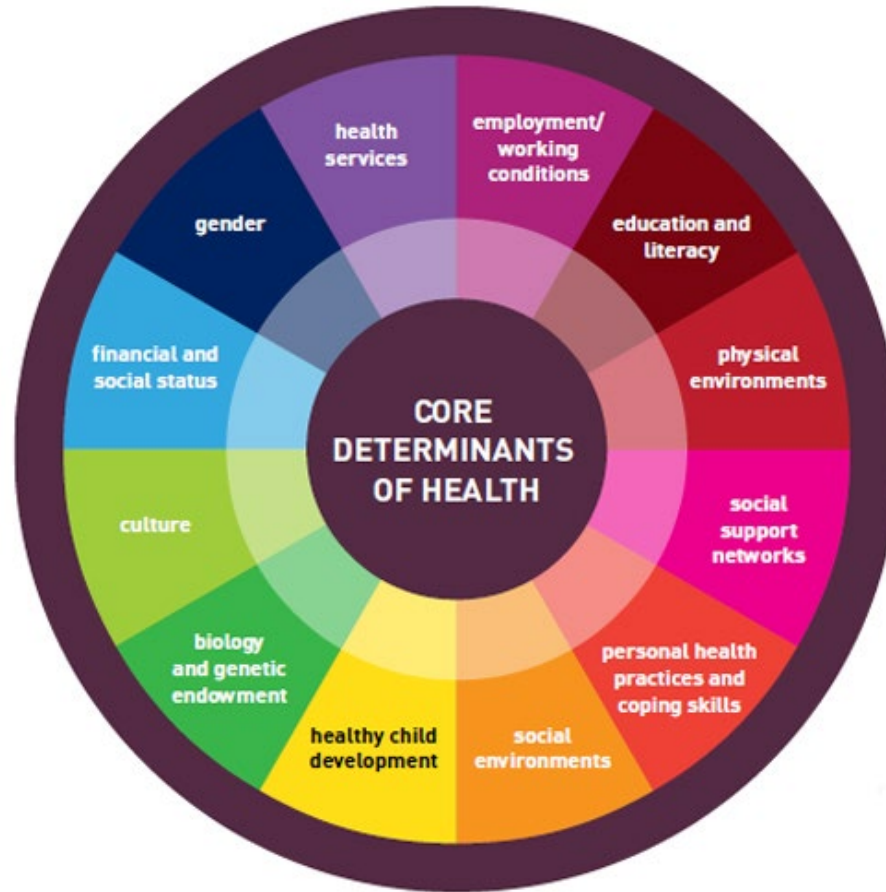
Equality



Equity



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TOBACCO PRODUCT WASTE

- Plastic waste
 - Cigarette butts; Cigar tips and wrappers; E-cigarette casings; Cartridges; Packaging and wrapping; Pouches, etc.
- Hazardous waste
 - Nicotine
 - Batteries
 - Toxic metals



CIGARETTE BUTTS HAZARDOUS WASTE

Throwaway Culture

- Most commonly littered item

Cellulose Acetate

- Non-biodegradable; creates microplastic

Toxic Chemicals & Metals

- Nicotine, lead, arsenic, etc.



E-CIGARETTE/VAPES HAZARDOUS WASTE

Nicotine and nicotine salts

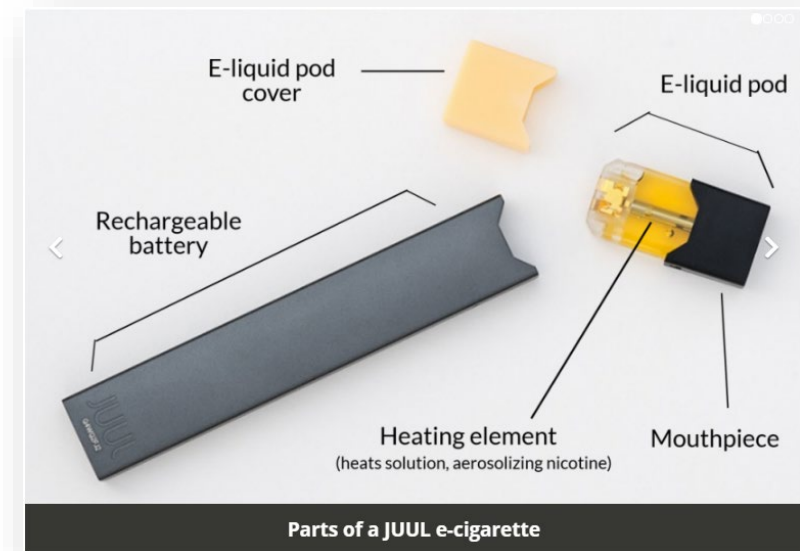
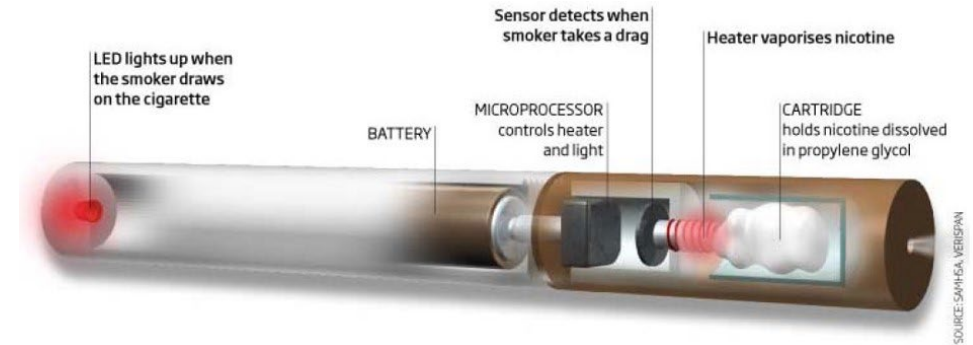
- Classified as an acute hazardous waste

Batteries

- Hazardous waste; fire/explosion risk

Metals

- Leach into ground and water



SPEAKERS



Dr. John D. Atkinson



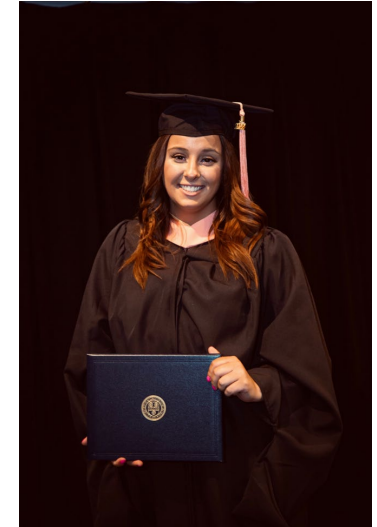
Jenna Brinkworth



Esther Agbaje



Lexi Popovici



Hannah Weltzer

Cigarette Filters as a Source of Microplastics

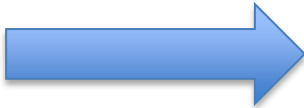
Public Health Law Center | “No Filter” Webinar | September 27th, 2023



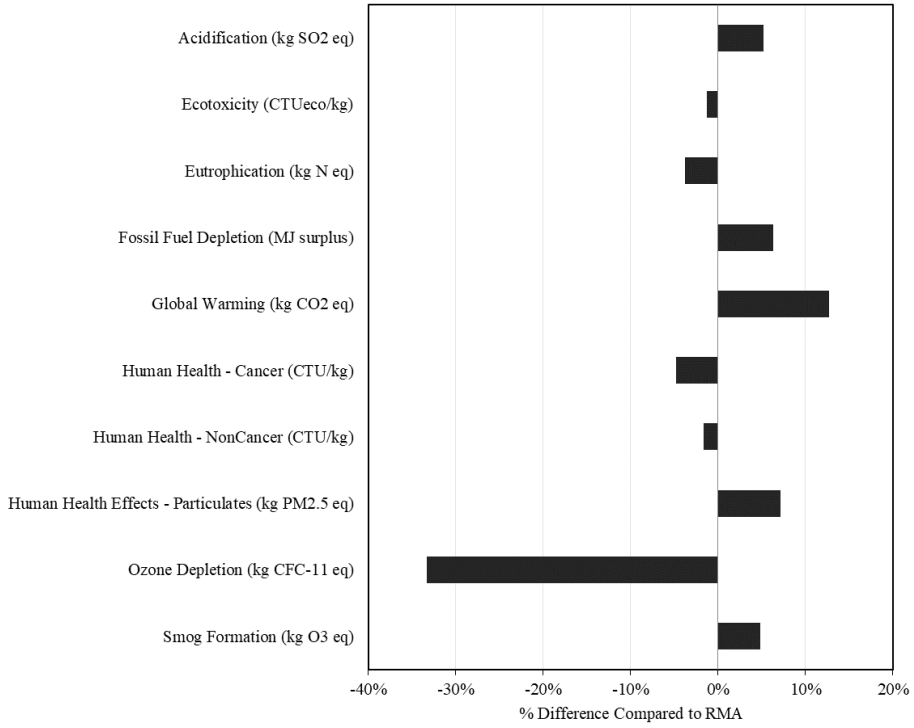
John D. Atkinson, PhD

Scott & Coleen Stevens Chair in Engineering Sustainability
Associate Professor, Environmental Engineering

State University of New York – University at Buffalo
Dept of Civil, Structural, and Environmental Engineering
AtkJDW@buffalo.edu

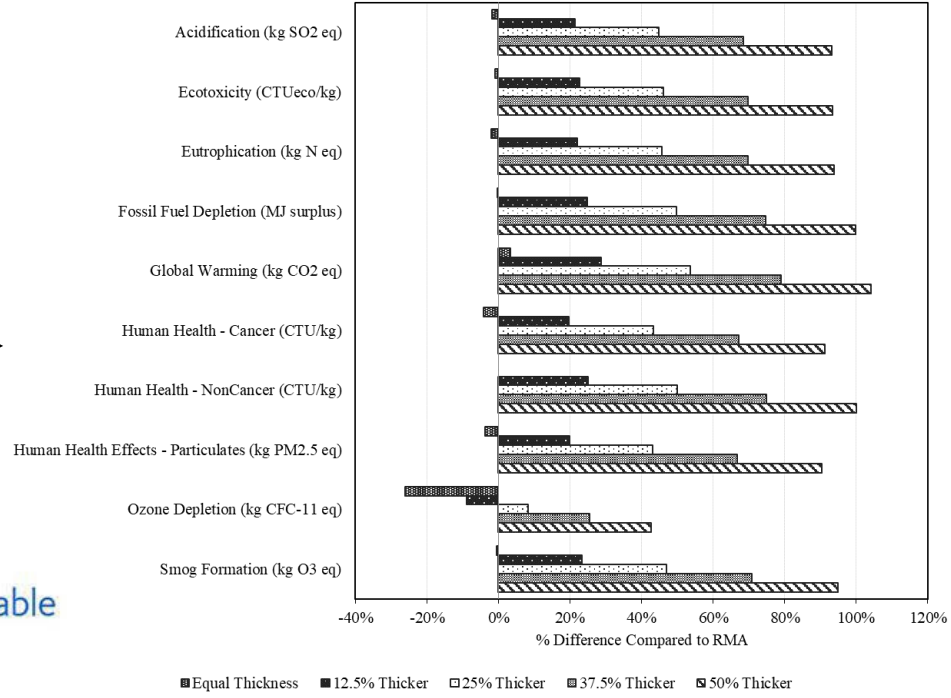
from
Reactive  Proactive
to

Sustainability **MUST** provide an opportunity to lead; not lag.

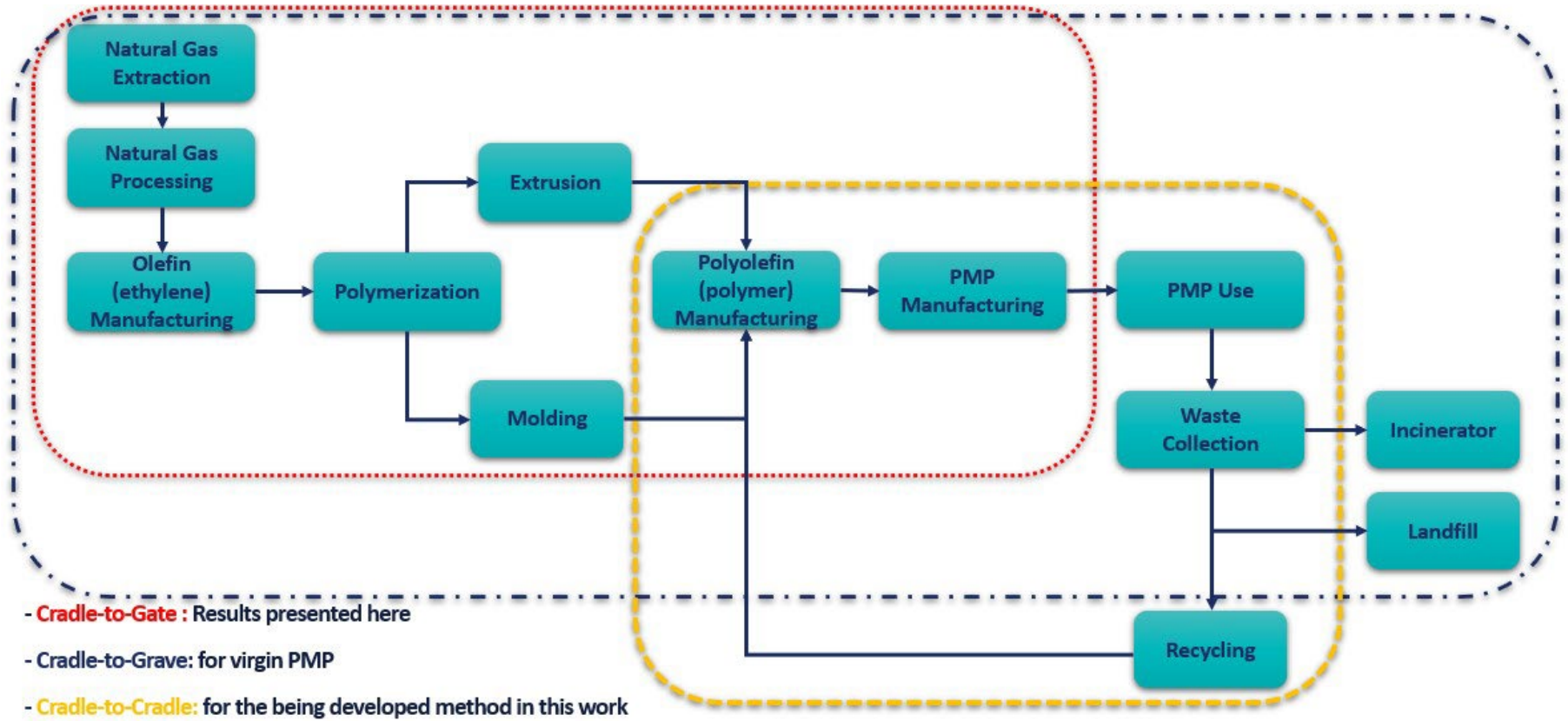


← Comparing Equal Volumes of Rubber & Polymer-Modified Asphalt

Comparing Variable Thickness of Rubber-Modified & Conventional Asphalt →



Lifecycle Impacts of Multilayer Plastic Films



- **Cradle-to-Gate** : Results presented here

- **Cradle-to-Grave**: for virgin PMP

- **Cradle-to-Cradle**: for the being developed method in this work

DEC awards UB \$4.5 million to create plastics recycling research center

Initiative on Plastic Recycling Research and Innovation

PI: Amit Goyal

Task 1 – Map the Reverse Supply Chain for Plastics (Nallan Suresh)

Task 2 – MRF Optimization (Aditya Vedantam)

Task 3 – Plastics in the Natural Environment (John D. Atkinson)

Task 4 – Plastics in Agriculture/Medical Sectors (Paschalis Alexandridis)

Task 5 – Recycling Attitudes and Behaviors (Janet Yang)

Task 6 – Improving Sorting Sensors (Thomas Thundat)

Task 7 – Sensor for Recycled Content (Goyal/Thundat)

Plastics in the Natural Environment → Microplastics

...a struggle between “just” measurements and fundamental research

1. Wastewater Treatment Plants

2. QA/QC with Citizen Science Projects

3. Cigarettes

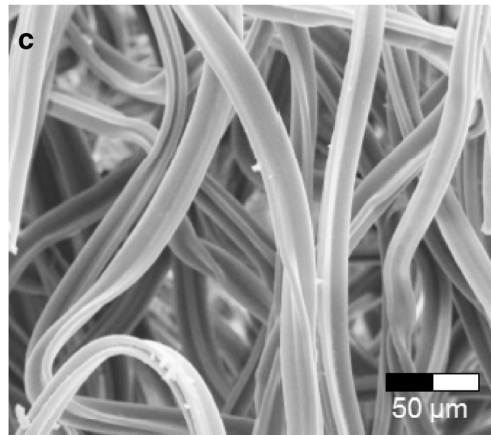
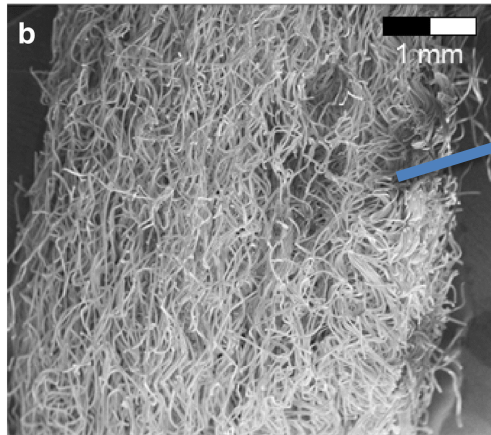
4. Workshop Development for NYS Stakeholders



3. Cigarettes



Moroz, et al., *ESPR*, 2021



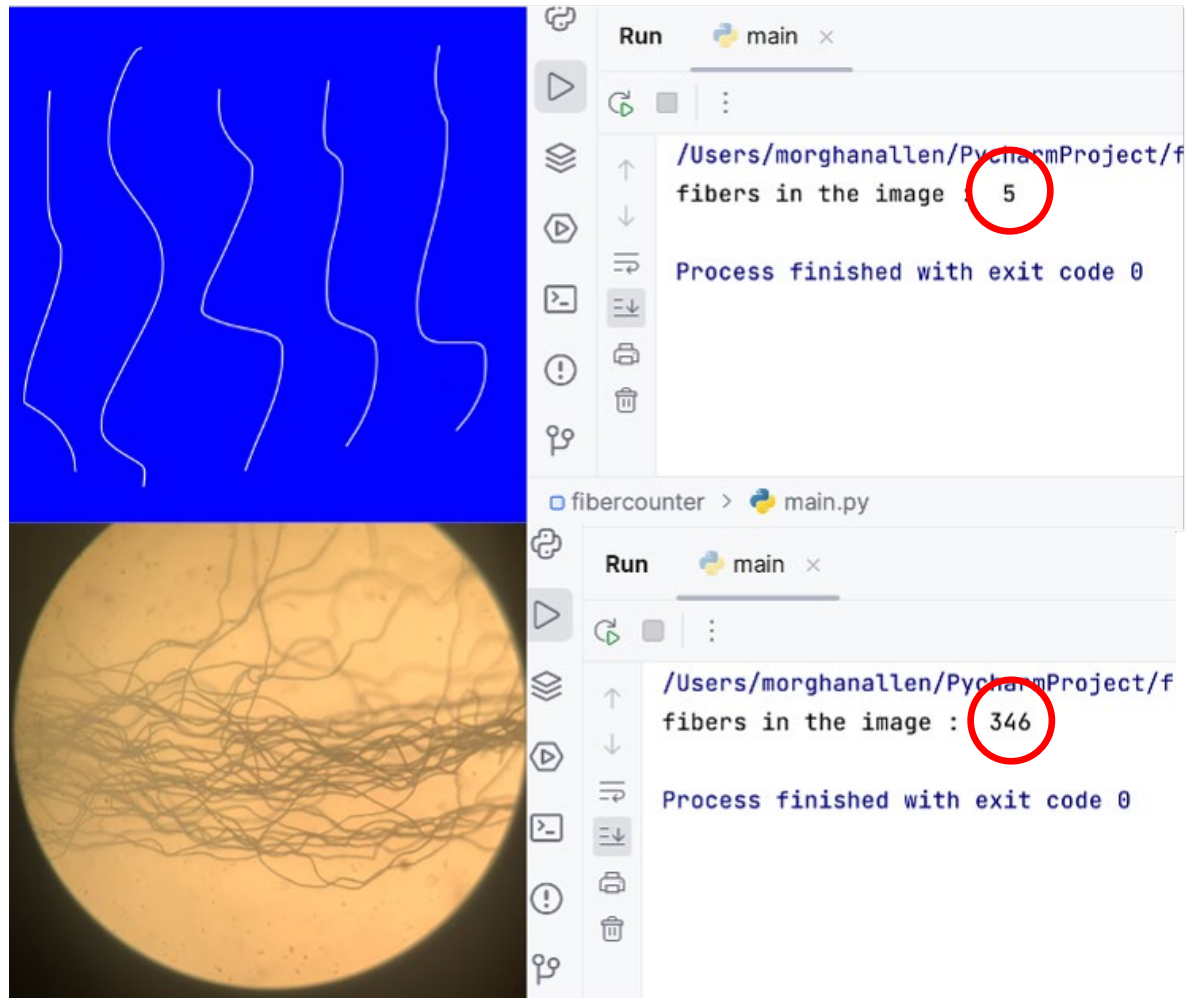
Estimates of 12-15k microfibers/filter
Cellulose Acetate

Comprehensive understanding of
cigarette butt pollution, but little
documentation on impact of
microplastic fibers...

Our On-Going Work Includes:

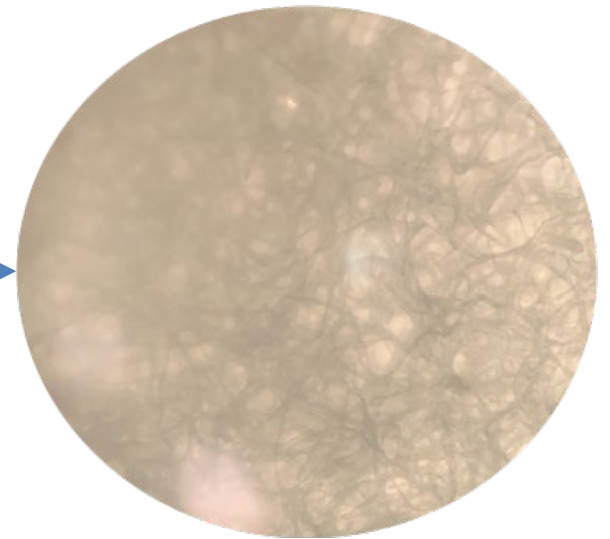
- **How to Count the Fibers?**
- **Microfiber Release Rates**
 - *Sunlight Impacts*
 - *Chemical Leaching*
- *Source Tracking / CSOs*

Because there are so many fibers, counting is a struggle...



Students are building a computer program using Python software that can count the fibers for us

Because there are so many fibers, counting is a struggle...



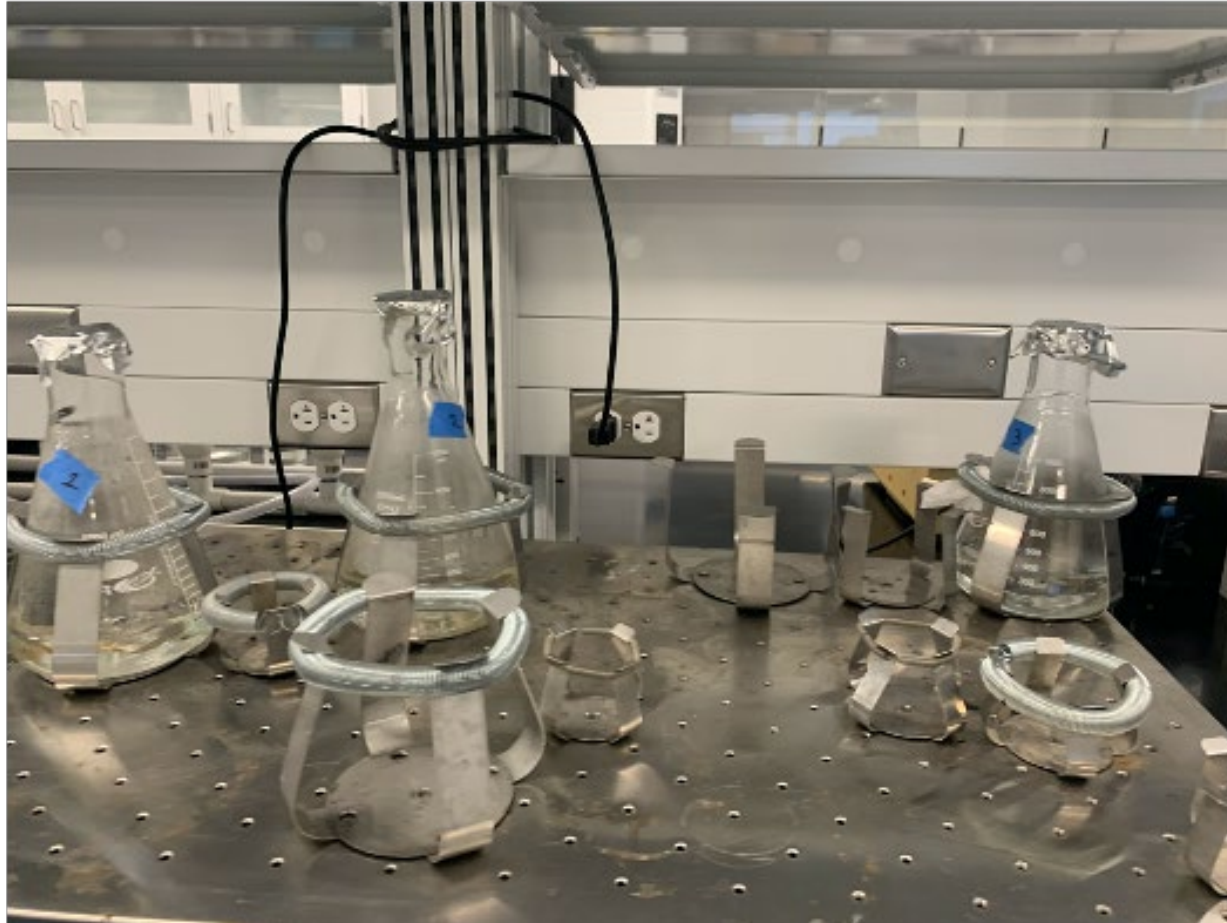
Dispersing one filter's microplastics in water and then seeing what is there in a small aliquot through filtration, imaging, and counting ... then scaling up.

How quickly are the filters shedding microplastics?



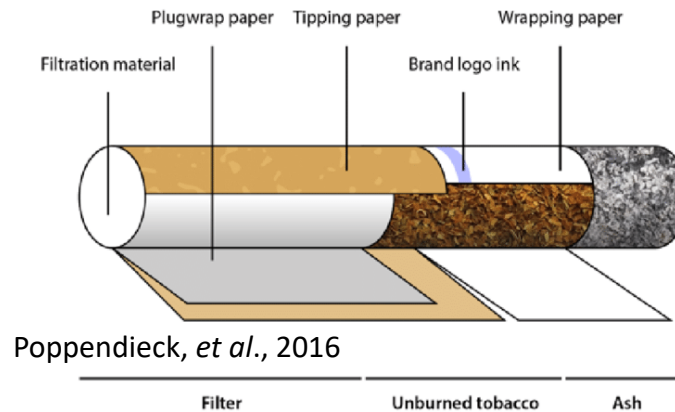
Investigating how the physical state of the filter impacts microplastic release rates:
Hypothesis: More external surface area causes faster particle release

How quickly are the filters shedding microplastics?



Investigating how external agitation of the filter impacts microplastic release rates:
Hypothesis: More agitation causes faster particle release

How quickly are the filters shedding microplastics?



Investigating how tipping and plugwrap papers impact microplastic release rates:
Hypothesis: Paper removal(s) cause(s) faster particle release

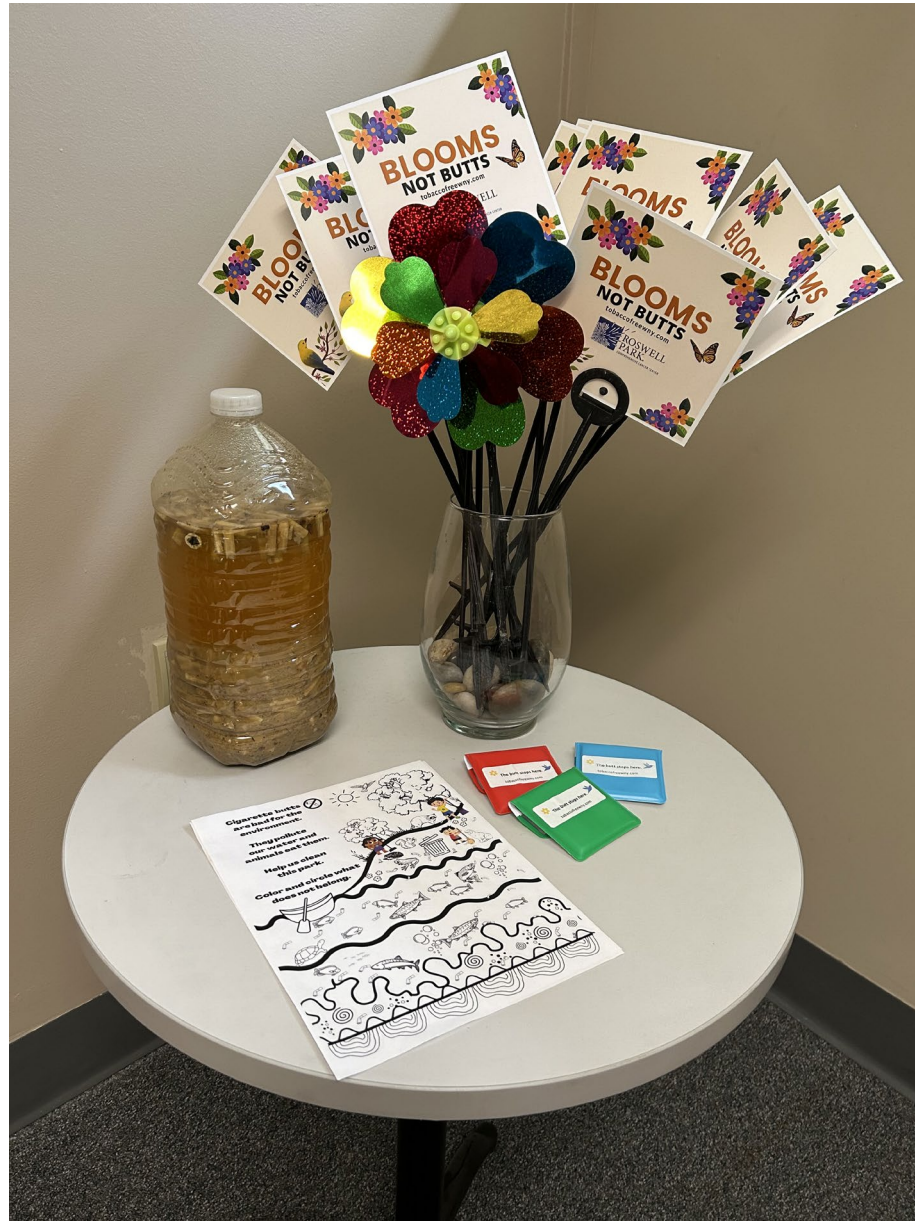
Other Topics of Interests / Works in Progress

- 1. Sunlight impacts on microfiber release & filter decay**
- 2. Chemical leaching from cigarette butts vs. microfibers**
- 3. Source tracking & stormwater overflows
(and wastewater treatment plants?)**

Thank You!

Contact Information:

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AtkJDW@buffalo.edu
716.645.4001







Coming Saturday August 20th

Urban Run Series

"Plogging Run"



Join in on the new running activity hitting the shores of America from Sweden!

Details coming on our Facebook and Instagram pages.
Event partners-Saucony, Runners Roost, lululemon, Green Buffalo, Roswell Park, and bunch more!
Event starts at 11am from Flying Bison.



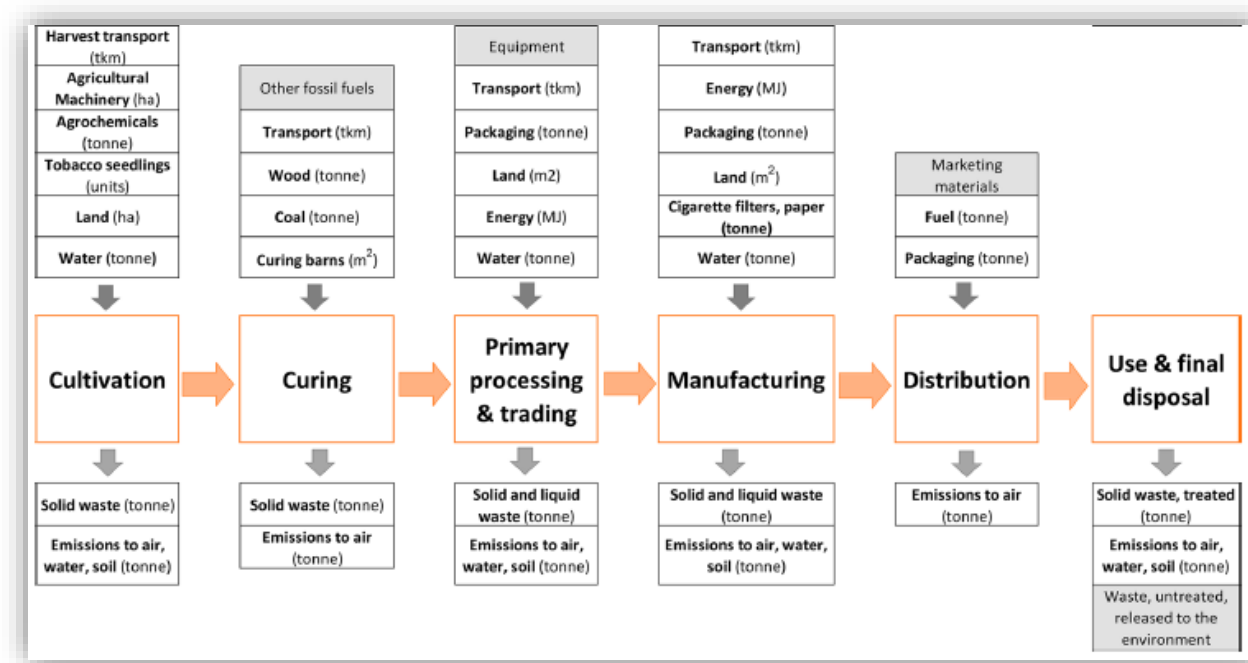
TOBACCO PRODUCT WASTE: POLICY & AWARENESS OPTIONS

TOBACCO PRODUCT WASTE

- Cigarette Waste –
Filters/Butts
- Electronic Waste;
Hazardous waste
- Environmental (In)Justice



THE TOBACCO LIFE CYCLE



9/27/2023

Credit: Zafeiridou et al.

ENVIRONMENTAL IMPACT

- Concentrated in disadvantaged communities
- Tobacco product waste leads to:
 - Poisoning Air, Soil, and Water
 - Nicotine leaching into the ground/water
 - Turning into micro plastics
- Harmful to agriculture, oceans, wildlife, and humans

ADDRESSING THE PROBLEM

- Challenges
 - Recycling Vapes
 - Disposing of Cigarette Filters
 - Who is responsible?
 - Schools
 - Governments
 - Tobacco Industry



POLICY OPTIONS TO ADDRESS TPW



Upstream: Politically difficult, but most efficient and equitable

Midstream: varying degrees of feasibility and effectiveness, require significant investment

Downstream: Politically feasible, but on their own least effective or equitable

NY STATE AND LOCAL OPTIONS SALES RESTRICTIONS



Photo credit: CA CTCP, me

NEW YORK PROPOSED LEGISLATION FILTER AND SINGLE USE BANS

- Tobacco Product Waste Reduction Act
 - S1278 Introduced in January 2021
- Bans the sale of filtered cigarettes and single use e-cigarettes



NEW YORK PROPOSED LEGISLATION

EXTENDED PRODUCER RESPONSIBILITY (EPR)

- EPR laws put the onus back on the manufacturer for the end of life of the product
- NY proposed EPR bill focuses on plastic packaging and proper disposal of packaging
 - Could apply to e-cigarettes and force manufacturers to be responsible for disposal
 - Assembly Bill 10185, introduced in 2022.
- EPR legislation needs to be fully comprehensive
 - No industry self reporting or oversight

COLLABORATIVE WASTE MANAGEMENT

NEW YORK OPTIONS

- Assembly bill 8884, introduced in 2022
 - Require tobacco manufacturers to develop a recycling plan for electronic products
- Local government coordination on waste management
- Certified Unified Program Agencies (CUPA) style collaborations

STATE AND LOCAL OPTIONS SCHOOL DISPOSAL PROGRAMS

E-Cigarette Waste Disposal Kit Supplies

 <p>Used Battery Container <i>one per site</i> 9.75"Lx7.75"Wx9.625"H PIG: DRM136; Grainger Item: 381P51</p>	 <p>Nitrile or latex gloves <i>keep a few pairs on site</i></p>	 <p>Vaping Guidelines Sticker 5"x5" Matte white Vinyl Sticker <i>one per bin</i></p>
 <p>Hazardous Waste Label <i>one per bin</i></p>	 <p>Clear sealable bags <i>keep a few bags on site</i></p>	 <p>Vape Bin Fill Line Sticker 4"x2" Clear Stickers</p>

To request supplies, contact the Tobacco Education and Prevention Partnership at 303.413.7567

Learn More

Nicotine Exposure or Poisoning: Call Poison Control at 1.800.222.1222
Disposal: Call Environmental Services at 720.561.5693

Hazardous Materials: Boulder County Hazardous Materials Management Facility at 720.564.2243
Tobacco or Vaping and Health: Call Boulder County Public Health at 303.413.7564

 **VAPE AWARE**
Your environment • Your responsibility
Boco.org/VapeAware

 **BOLDER COUNTY
PUBLIC HEALTH**
Opportunity for a healthy life

Credit: Boulder County, CO, [Electronic Device Disposal Guide for Schools](#)

STATE AND LOCAL OPTIONS TO PREVENT HAZARDOUS WASTE DANGERS



- Jurisdictions may be able to go further than state law to prevent dangers
- Could designate nicotine-containing consumer products as hazmat, even though normally excluded by state law
 - Leading to compliance costs and public awareness about the real dangers of the products
- Local authority/expertise in fire officials

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LITIGATION

BALTIMORE V. PHILIP MORRIS USA, INC ET. AL.

- City sued tobacco companies over cigarette butt litter
- Asking court for costs of cleanup and an order to stop selling plastic cigarettes in Baltimore
- In early stages, but similar suits are possible



LITIGATION

CITY OF NEW YORK V. MAGELLAN TECHNOLOGY INC., ET. AL.



Credit: New York Daily News [NYC Fights Illegal Flavored Vapes](#)

- NYC sued four distributors of e-cigarettes
- Allegations include illegally selling flavored e-cigarettes in violation of federal, state, and city laws
- Purpose is to prevent young people from being addicted to nicotine
- Additional impact on decreasing tobacco product waste

MONROE COUNTY: VAPE DISPOSAL PROGRAM

Alexandra Popovici, MPA

Hannah Weltzer, MPH, CHES



Smoking & Health
Action Coalition
of Livingston &
Monroe Counties

What's the big deal?

- **E-Cigarettes:**

Disposable, Prefilled or Refillable - No tank or pod
Cartridge attached to pen containing battery

- **Tanks / Mods:**

Designed for multiple uses
Can be filled with different substances and
modified to vary voltage

- **Pod Mods:**

E-cigarette or vaping device with prefilled
OR refillable pod,
OR pod cartridge with modifiable pod system;
Come in many sizes, shapes, colors
Compatible prefilled pod cartridges that
contain nicotine, THC, or CBD –
with or without flavors

- **E-Liquids:**

Typically a mixture of water, flavoring,
choice of nicotine levels or cannabis



- Schools are epicenters for device collection
- Poses serious environmental and health risks
- Design of disposable devices makes separating components difficult & unsafe
 - **Plastics:** waste from pods, cartridges & packaging turn into microplastics
 - **Electronics:** Electronic waste is produced from the Lithium-ion
 - batteries in vapes. Batteries degrade and leach chemicals into the environment, including fire risks.
 - **Chemicals:** Vape flavors contain heavy metals/toxic chemicals and Nicotine is listed as an acute hazardous waste by the EPA

Engage the Right People

Schools

Superintendents, drug & alcohol counselors, health teachers, prevention coordinators

Local government officials & agencies

County Executive, Department of Environmental Services, waste management facilities

Local health department

Commissioner of Public Health

Monroe County Vape Disposal

- Since August 2022, Monroe County now prohibits E-cigarettes & e-liquids from being disposed of in the trash
- They accept these products (including Nicotine and Cannabis) at their Ecopark location in Rochester, NY
- American Lung Association, Clean Harbos and Monroe County DES collaboration



Monroe County Vape Disposal

SCHOOLS

- Products are accepted through the Conditionally Exempt Small Quantity Generator (CESQG) program
- BOCES, public and private schools need to complete & submit CESQG form for ecopark's hazardous waste facility
- Fee will apply, \$300 per 5 gallon pail (weighing no more than 40 pounds)

HOUSEHOLDS

- Free for households
- Use of gloves is recommended to collect e-liquids, e-cigarettes and vape products within plastic zip-lock bags
- Bags should weigh less than 2.2 pounds for safety

Visit, <https://www.monroecounty.gov/ecopark-electronics#ecig>

First Year of Vape Disposal

- 5500+ vape devices collected
 - 3600+ devices came from schools
- 340 pounds of vape devices
- Devices are taken to a Clean Harbors facility for safe disposal



Where to go from here?

Lessons learned

- Aware of cost associated for schools to dispose of these devices & what implications this has
- Accessibility of using the disposal program; Wednesdays & Saturdays
- Sustainability; add vape devices to schools' hazardous waste contracts
- Gaining more community awareness
- Can/will manufactures be held accountable for disposal costs?



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