Massachusetts
Toxics Use Reduction

TURA Administrative Council
May 21, 2025

MassDEP

OTA
OFFICE OF TECHNICAL
ASSISTANCE & TECHNOLOGY

TURI
TOXICS USE REDUCTION INSTITUTE

Format for Questions and Discussion

- Council members may ask questions at any time by raising hand
- Non-Council members will be given an opportunity to participate **after** the Council member discussion at the end of each agenda item; comments limited to 3 minutes if any other attendees are waiting to speak
- Raise hand function will be used
- If we run out of time for attendee questions, please email questions to the TURA Program Administrative Council Executive Director, Tiffany Skogstrom (tiffany.skogstrom@mass.gov)

How to Ask Questions

Use Zoom function to raise your hand for comments or questions.

To access the "Raise Hand" function, click "Participants" at the bottom of your screen, and then click the "Raise Hand" button that appears under the list of participants. This will notify the host that you have a question or comment.

Agenda

- Welcome and Introductions
- Vote to Approve December 4, 2024 Meeting Minutes
- Vote to Approve Nine Recent PFAS Additions to the Toxics Release Inventory
- Carbon Nanotubes and Carbon Nanofibers Policy Analysis Presentation
- TURA Program Update
- Adjourn

Note: Public comments/questions will be held until opened for general discussion

Welcome and Introductions

December 4, 2024 Meeting Minutes Vote

Approval of December 4, 2024 meeting minutes

Additions to TURA List: 2025 Toxics Release Inventory (TRI) Additions

EPCRA (TRI):
Additions are **required**

"Each year the Council shall adjust the toxic or hazardous substance list to add or delete substances consistent with changes in said toxic chemical list."

M.G.L 21I, §9(A)

Nine PFAS (100 lb. threshold)

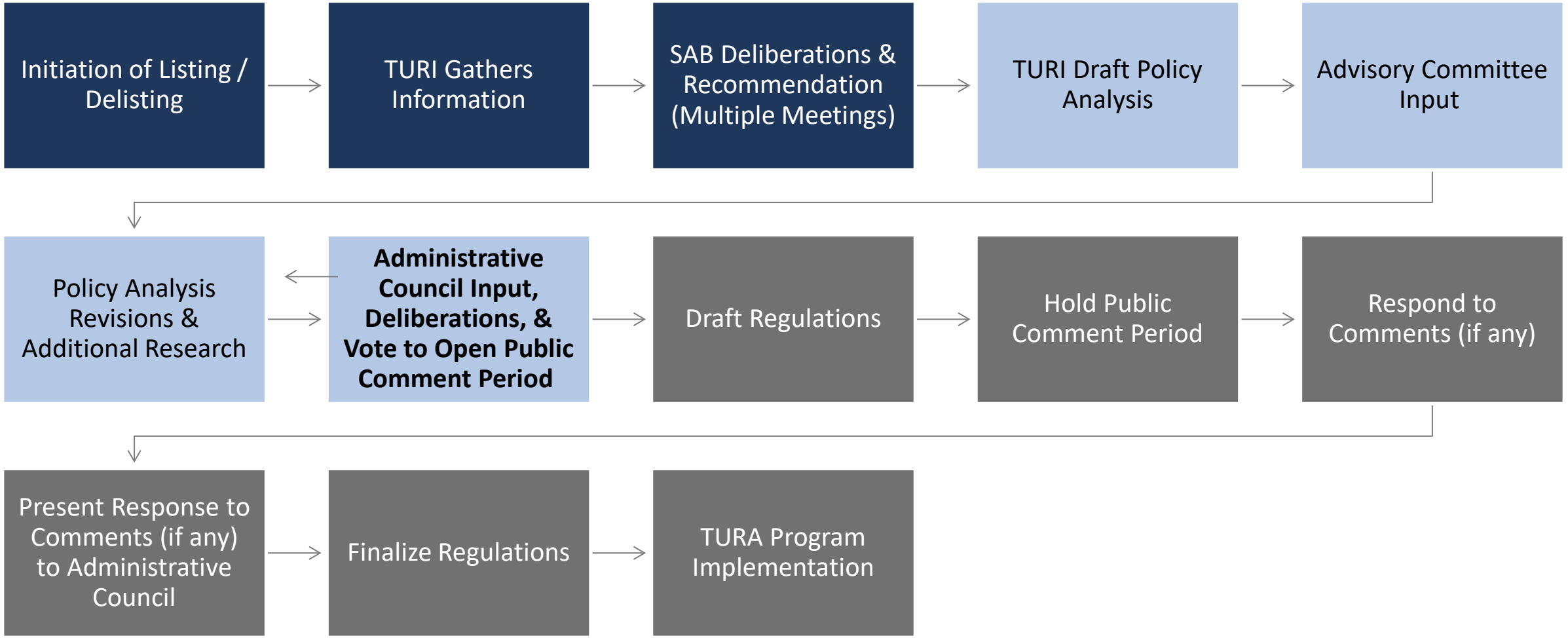
377-73-1	Perfluoro-3-methoxypropanoic acid
3108-42-7	Ammonium perfluorodecanoate (PFDA NH4)
3830-45-3	Sodium perfluorodecanoate (PFDA-Na)
27619-97-2	6:2 Fluorotelomer sulfonate acid
425670-75-3	6:2 Fluorotelomer sulfonate anion
59587-38-1	6:2 Fluorotelomer sulfonate potassium salt
59587-39-2	6:2 Fluorotelomer sulfonate ammonium salt
27619-94-9	6:2 Fluorotelomer sulfonate sodium salt
3030471-22-5	Acetic acid, [(γ-ω-perfluoro-C8-10-alkyl)thio] derivs., Bu esters

Vote to Add Recent TRI Additions to TURA List

Vote to add all recent Toxics Release Inventory (TRI) additions to the TURA List

Carbon Nanotubes and Carbon Nanofibers Policy Analysis Presentation

TURA Program Consideration of Carbon Nanotubes and Nanofibers: **Decision-making Steps for Additions to TURA List**



TURA Program Consideration of Carbon Nanotubes and Nanofibers: **Petition**

June 2020

Petition filed by Clean Water Action (CWA) and Public Employees for Environmental Responsibility (PEER) to list Carbon Nanotubes (CNT) and Carbon Nanofibers (CNF) under TURA

- Requested to list Carbon Nanotubes and Carbon Nanofibers as Higher Hazard Substances
- Proposed to include CNTs and CNFs on TURA list as a group
- Requested 100g reporting threshold

TURA Program Consideration of Carbon Nanotubes and Nanofibers: **Recommendation from the TURA Science Advisory Board (SAB)**

TURA Science Advisory Board recommends Multi Walled Carbon Nanotubes, Single Walled Carbon Nanotubes, and Carbon Nanofibers be **added as three distinct categories** to the TURA List of Toxic Substances

- Recommended MWCNT category be listed as HHS with lower threshold
  - Evidence of pulmonary toxicity, lung cancer, mesothelioma and environmental persistence. Concerns for genotoxicity and toxic environmental degradation products.
- Recommended listing SWCNT and CNF as standard categories
  - **SWCNT** - evidence of pulmonary toxicity and environmental persistence. Concerns for reactive oxygen species (ROS) production and DNA damage.
  - **CNF** - evidence of pulmonary toxicity.

CNT/CNF Hazards focused on by SAB

Pulmonary Toxicity

- Extensive evidence of pulmonary toxicity including pulmonary inflammation and fibrosis for MWCNT, extending to evidence of carcinogenicity (IARC 2B) and mesothelioma. Solid evidence for SWCNT and CNF.

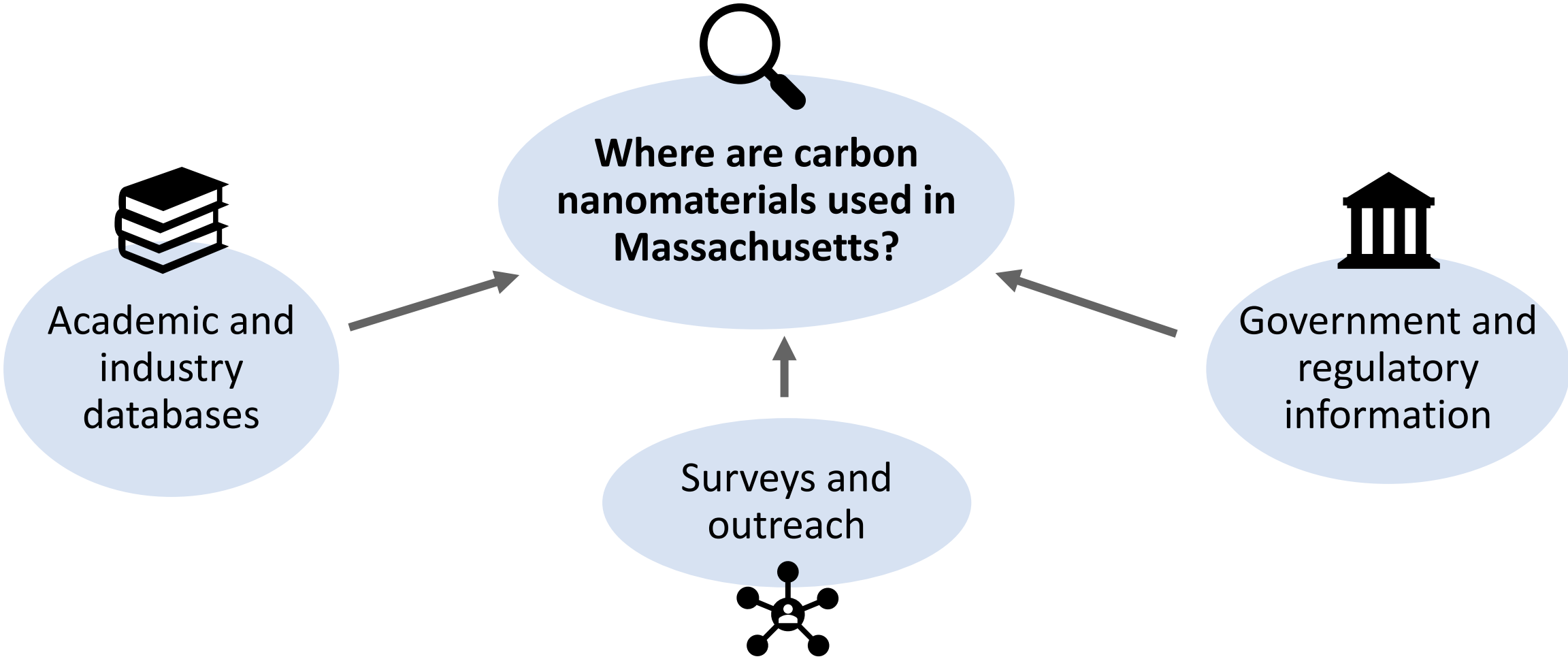
Genotoxicity

- MWCNT showed DNA damage and/or micronuclei formation
- SWCNT showed DNA damage and/or Reactive Oxygen Species (ROS)

Environmental Persistence

- Solid evidence for MWCNT and SWCNT. No studies for CNF.

TURA Program Consideration of Carbon Nanotubes and Nanofibers: **Potential Use in Massachusetts**



TURA Program Consideration of Carbon Nanotubes and Nanofibers: **Potential Use in Massachusetts**

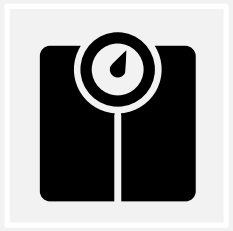
Excerpt of Table 1 from TURA Policy Analysis

36 companies identified as potential carbon nanomaterial users across a range of sectors and applications

Industry	# companies (likely / possible)	Nanomaterial	Uses *(*definitive applications in MA)*	Estimated Use Volume *(per facility)*
Electronics & Computing	4 / 3	CNT, CNF	Electronics (semiconductors, *memory RAMS, *optical devices); computers (*semiconductors, computer chips, *quantum computers, display panels)	1-100 lbs.
Advanced Materials	1 / 3	CNF	Carbon fiber flywheel: storage of kinetic energy (composite rim core); protective equipment; aerospace (*thrusters); specialty paper manufacturing (activated carbon and filter paper)	500-5,000 lbs.
Biopharmaceutical	0 / 4	CNT	Chromatography columns; spectroscopy (1 dimensional systems), pharmaceuticals (sustained-release drugs)	Unknown
Nanomaterial Manufacturing	2 / 0	SWCNT, MWCNT	*Fullerenes; *fullerene derivatives; *carbon nanotubes	1,000-5,000 lbs.

MWCNT Threshold Determination: **Overview**

"Upon recommendation of [TURI] and the [SAB], the council shall have the authority to lower the facility-reporting threshold on a higher hazard substance below [1,000 pounds]" – TURA Statute, Section 9A



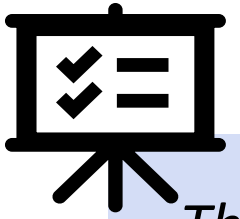
Original petition requested 100-gram reporting threshold for CNTs and CNFs

Regular TURA reporting thresholds are 25,000 or 10,000 lbs.

Higher Hazard Substances have a reporting threshold of 1,000 pounds

MWCNTs originally recommended by SAB to be listed as an HHS

MWCNT Threshold Determination: **Science Advisory Board (SAB) Recommendation**



The SAB recommends lowering the reporting threshold for MWCNT below the 1,000-pound threshold because many companies handling these materials use less than 1,000 pounds per year. The SAB recognizes the carcinogenicity of MWCNT and our previous recommendation to designate MWCNT as a Higher Hazard substance.

The SAB notes that the exposure and potential associated hazard may be similar across the range of use volumes from grams to 1,000 lbs.

MWCNT Threshold Determination: **Policy Considerations**

TURI agrees with the SAB recommendation to lower the MWCNT reporting threshold and suggests **a one-pound threshold**.

Use Research

- Suggested facilities use MWCNTs at quantities far below the 1,000-pound HHS threshold
- Global inventories, regulatory databases, market research, interviews

Precedence

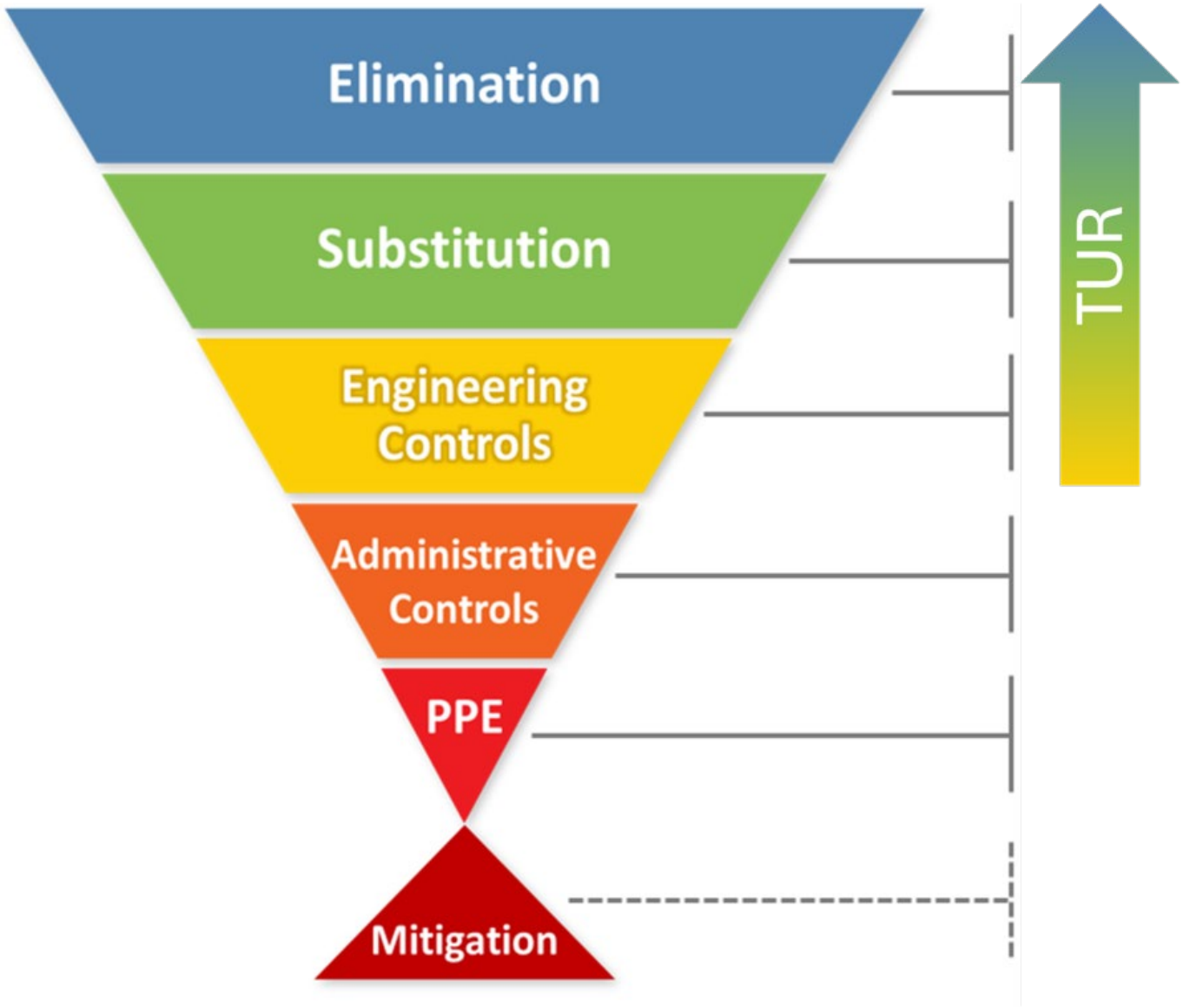
- EPA rule on lower reporting thresholds for Persistent, Bioaccumulative, Toxic Substances.
- French and Belgian inventories with 100-gram mandatory reporting thresholds

Capturing a Reasonable Portion of Users

- Improved public access to information
- Accelerating TUR innovation and safer solutions

The TUR Approach

- TUR opportunities for carbon nanomaterials are unique with many relevant technologies in early research stages.
- Availability of alternatives is not a pre-requisite for addition – TURA listing has proven to accelerate safer solutions.



Opportunities for TUR

Opportunities exist for continued research and development of alternatives, and safer by design strategies, which reduce negative impacts without sacrificing their properties and societal benefits

Considering the need

Alternatives to Carbon Nanomaterials

Safer by design CNTs and CNFs

Safer manufacturing and product design

TURA Program Consideration of Carbon Nanotubes and Nanofibers: **Regulatory Review Approach**

Overview of regulations, official guidance and initiatives that cover carbon nanomaterials

International

- OECD - Strategic Programme on Safety Eval. & Risk Assessment
- UN - SAICM/GFC Emerging Policy Issue / Issue of Concern
- EU - e.g. REACH, Cosmetics legislation; Nanoform Guidance

Federal

- TSCA Section 5 (Premanufacturing Notices and Significant New Use Rules)
- EPA Recordkeeping Rule
- NIOSH Recommended Exposure Limit

State and Local

- California DTSC Formal Request Letters
- Cambridge nanotechnology committee and Berkeley, CA disclosure requirements

Implications of Category Designation

Defining a category is appropriate in a number of circumstances and can provide several advantages over listing chemicals individually.

Adverse substitutions

Incomplete list of CAS numbers

Similar hazards across a group

Confidential business information

TURA Program Services

TURI
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- Academic research grants
- Industry grants
- Laboratory Services

OTA
OFFICE OF TECHNICAL ASSISTANCE & TECHNOLOGY

- Free onsite technical assistance

Fees and Planning-Related Costs

Cost of planning (TURP consultant or certification)

Cost of filing (estimated $2,950 per filer)

Estimated annual revenue to program ($14,750-$106,200)

Discussion

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TURA Program Update

Public Health Advocate Seat Open

- Recruitment ongoing for one of the Advisory Committee's Public Health Advocacy seats
- Please refer potential candidates to Tiffany Skogstrom
- Seat description

Ongoing Outcomes of Ad Hoc Process

Fees

- Ongoing discussion of program economic health
- Program staff are analyzing total cost of TUR planning to better understand economic impacts on filers

Plan Review Pilot

- Purpose: to assist companies that cannot identify feasible TUR options
- Program staff could review plans with companies to help ID new TUR options
  - Potential to offer TUR planner credits
  - Could inform potential future adjustments to the planning cycle

Proposed Additions to TURA Chemical List: Quaternary Ammonium Compounds

- Council voted previously to proceed with regulatory public participation process.
- Public comment period anticipated this summer.

Impact of actions under TSCA – **Risk Management Rules**

If at the end of the risk evaluation process EPA determines that a chemical presents an unreasonable risk to health or the environment, the agency must immediately start the risk management process to reduce or eliminate these risks.

Methylene Chloride → 14 TURA Filers in 2023

- Currently in effect - Banning the sale of many products and certain uses in industry
- Being challenged in court by both advocates and industry – Oral arguments to begin in June

Trichloroethylene → 6 TURA Filers in 2023

- A stay was lifted on March 28th – Puts most of rule into effect
- The effective date of workplace requirements for certain exempt "critical activities" delayed until June 20th
  - TSCA Section 21 petitions seeking reconsideration of exemption provisions
- Resolution of Disapproval under the Congressional Review Act currently awaiting action in the House Committee on Energy and Commerce

Impact of actions under TSCA – **TSCA Risk Evaluation Framework Rule**

The purpose of risk evaluation is to determine whether a chemical substance presents an unreasonable risk to health or the environment, under the conditions of use, including an unreasonable risk to a relevant potentially exposed or susceptible subpopulation.

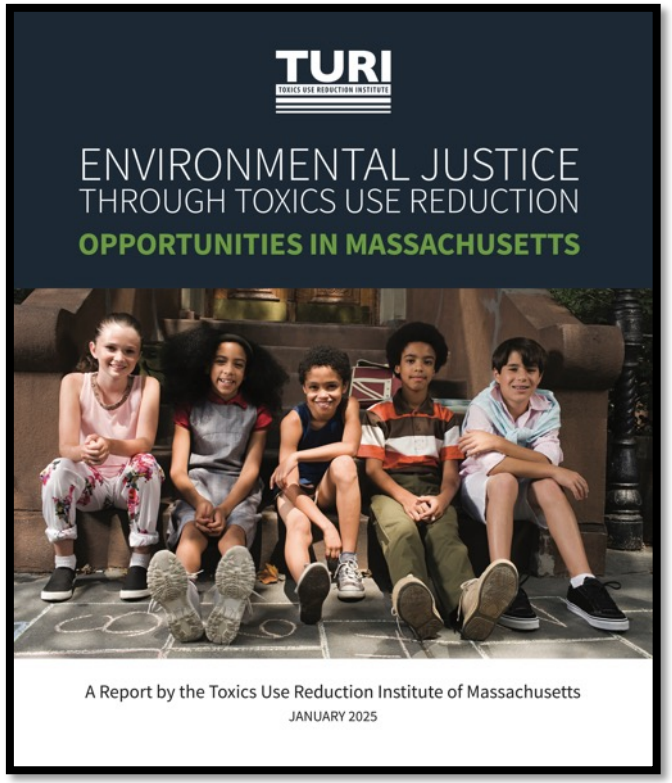
- A 2024 rule modifying the risk evaluation process is currently in abeyance but facing challenges in courts from industry and
- EPA asking courts for a remand of the rule in which it would "initiate notice-and-comment rulemaking as soon as possible" to reconsider the following.
    1. The current single-risk determination approach rather than use-by-use risk evaluation
    2. Requirement to evaluate all conditions of use
    3. **How PPE is currently considered**
    4. **The decision to include "overburdened communities" in definition of potentially exposed or susceptible subpopulations**
- Remand would likely lead to increased pre-emption of State laws, for example if certain conditions of use are found to "not present unreasonable risk" then those uses cannot be restricted at the state level.

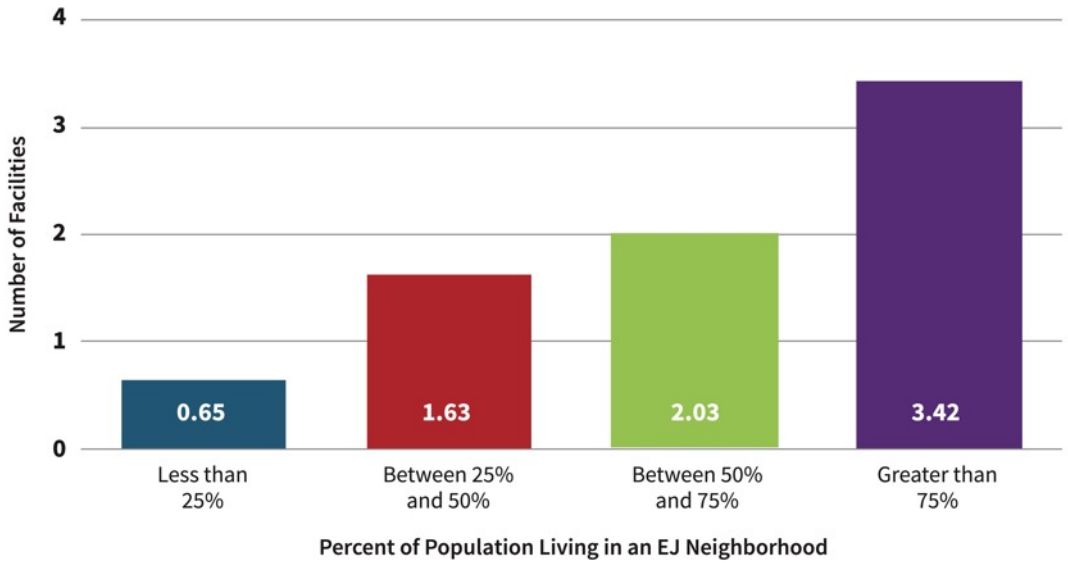
Impact of Federal Funding Cuts

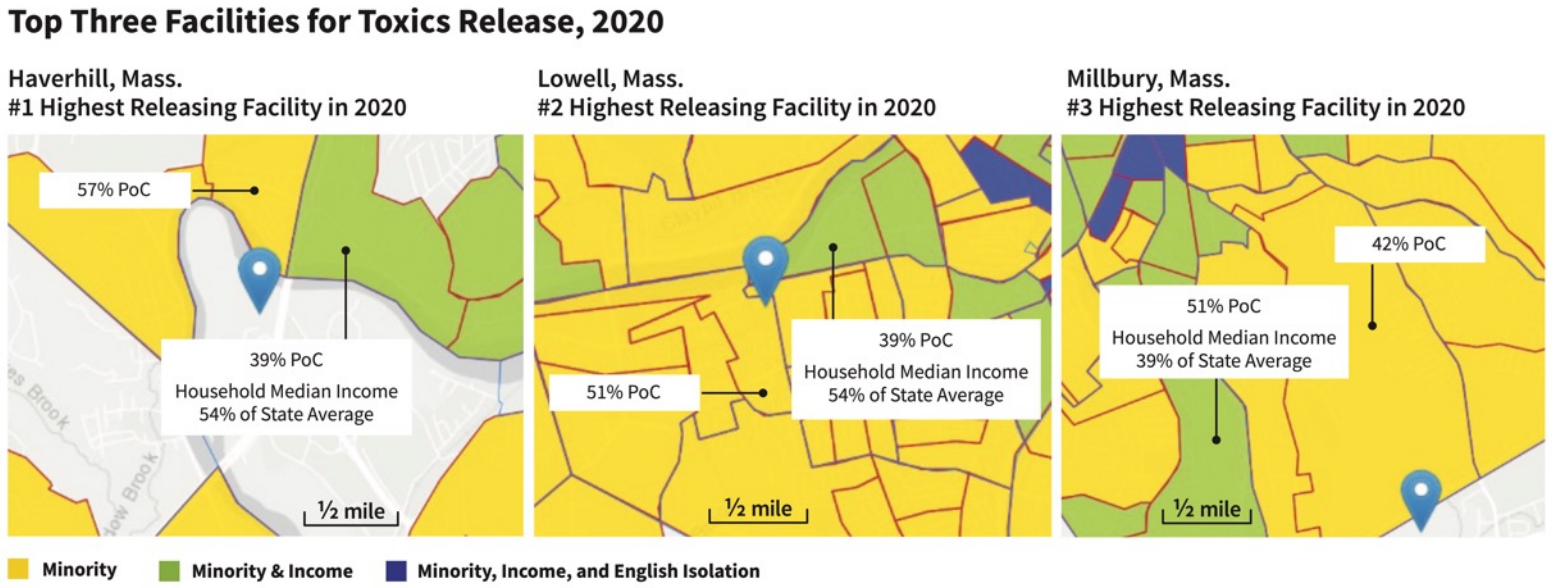
- Loss of EPA grants reduces opportunities for businesses and communities in Massachusetts
  - Eliminated or stalled projects for TURA filers to adopt safer solutions (e.g. vacuum vapor degreaser pilots)
  - Diminished availability of TURA grants for businesses in Massachusetts, as well as community groups and academic researchers.
- Reduced opportunities for academic research due to loss of federal funding
  - At UMass Lowell, more than a dozen federal grants have been paused or terminated to date, resulting in a loss of $5.4 million.
- Increasing operating costs for TURI
  - UML is increasing costs for TURI (e.g. rent, etc.) due to financial strains – placing greater urgency on the need to adjust TURA fees

TURI Environmental Justice Report

"Analyzes the use and release of Toxics in Massachusetts through an environmental justice lens"

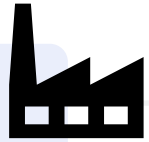






TURA Grants Update

Business Grants



- New Method Plating - Eliminate TCE use and set up demonstration site to spread adoption of TUR innovations
- Conklin Office Furniture– Alternatives to toxic solvents for furniture recycling

Research Grants

- Haartz - PFAS free fabrics for automobiles
- Safer alternatives to PFAS in food packaging
- PIGE identification of PFAS in consumer products for vulnerable groups (with Clean Water Fund and Silent Spring Institute)

Community Grants

- Berkshire Regional Planning Commission – Plastics and Microplastics Reduction
- Brazilian Women's Group - Transitioning to Safer Cleaning Products

TURI Laboratory Update

- Technical Support for Cleaning and Solvent replacements
  - Currently working with 21 companies for industrial manufacturing projects
  - Provided assistance to 12 craft beverage facilities in New England as part of EPA Region 1 grant
  - Presented at EPA P2 Training and Conference in DC during December (focus on CleanerSolutions and P2OASys and TCE projects)
- Product Performance Assessments
  - Lab awarded Safer Choice Partner of the year status from EPA
  - 13 companies received fee-for-service product performance assessments
- Chemical Hazard Assessments
  - Completed 571 assessments using TURI's P2OASys tool

TURI Training Program Update

- TURA Courses
  - Launched online training "Beyond the SDS" (January 2025) to help TUR planners and the public gain a better understanding of chemical hazard classification and communication
  - Taught hybrid TURA Environmental Management System course (March 2025), with in-person segment at MA company Gem Gravure
- TUR Conferences
  - Worked with ChemCon Conference to bring TUR planners to an international conference on chemical management (March 2025)
- Recent Training Events
  - Worked with the UML Public Health Informatics and Technology (PHIT) to teach students about chemical hazard and impact on health and the environment (January 2025)
  - Delivered in-person a training on chemical hazards and TUR for a TURA filer (May 2025)

TURI Training Program – Upcoming Webinars

- Energy Conservation Webinar (3 CEUs) on May 22 from 9:00 am – 10:30 am, hosted with the Office of Technical Assistance and Technology
- Environmental Justice Webinar on June 4 at 1:30 pm
- Math Skills for TUR Reporting and Planning Webinar (3 CEUs) on June 17 from 1:00 pm – 2:30 pm
- Additional webinars on policy, technology, science and TUR planning skills will be held monthly for TUR planners
- Toxics Use Reduction (TUR) Planner Course (Fall 2025)
- Resource Conservation Planning Course (Early 2026)

TURI Research Program Update

- F-gases, defined as PFAS, pose concerns for environmental justice communities and have high global warming potential. A new TURI report highlights the efficient and safe alternatives for their use in refrigeration

- EPA-funded project to develop and accelerate the commercial adoption of safer paint strippers and PVC cement products

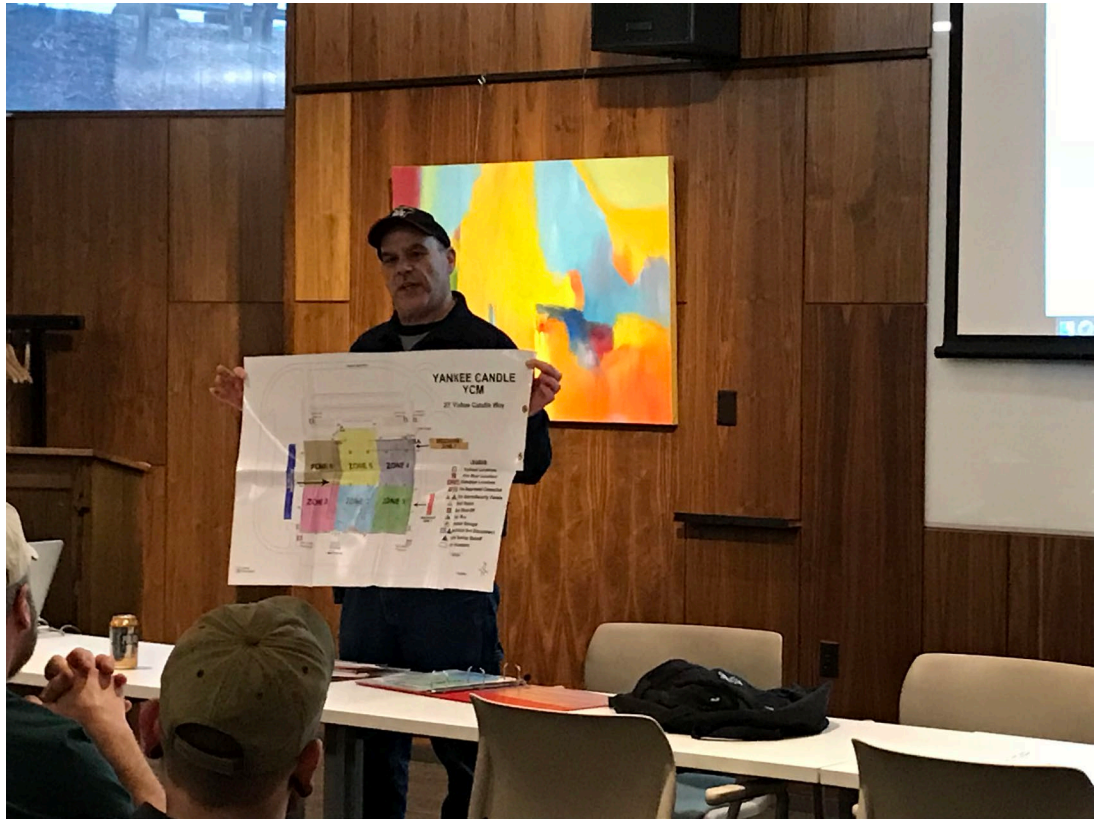
- Project to help companies and municipalities evaluate safer solvents to eliminate the use of carcinogens and other hazardous chemicals

Full report

SAB Update

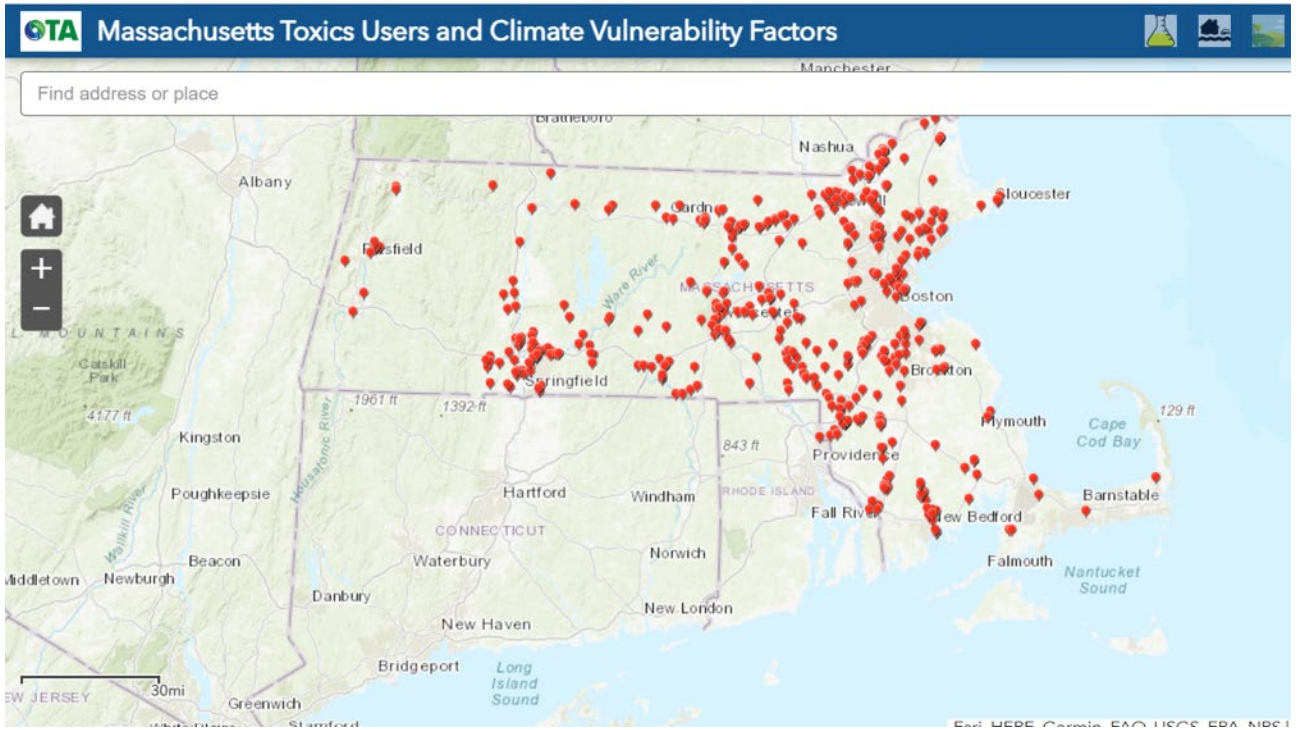
- Currently working on reviewing a category of Aryl Phosphate Esters as a potential listing
- Includes approximately 30 APEs, with primary concerns of aquatic toxicity, endocrine disruption and developmental toxicity
- SAB has been reviewing for the past 4 meetings
- TURA review of APEs follows the work the SAB was required to do for the Flame Retardant Law
- The SAB also recently recommended lowering the threshold for multi-walled carbon nanotubes (MWCNT)

June Chemical Safety & Climate Change Resilience Tabletop Exercise (Lawrence and Holyoke)



Chemical Safety & Climate Change Resiliency Map Migration

- GIS map updates
- EJ Intern



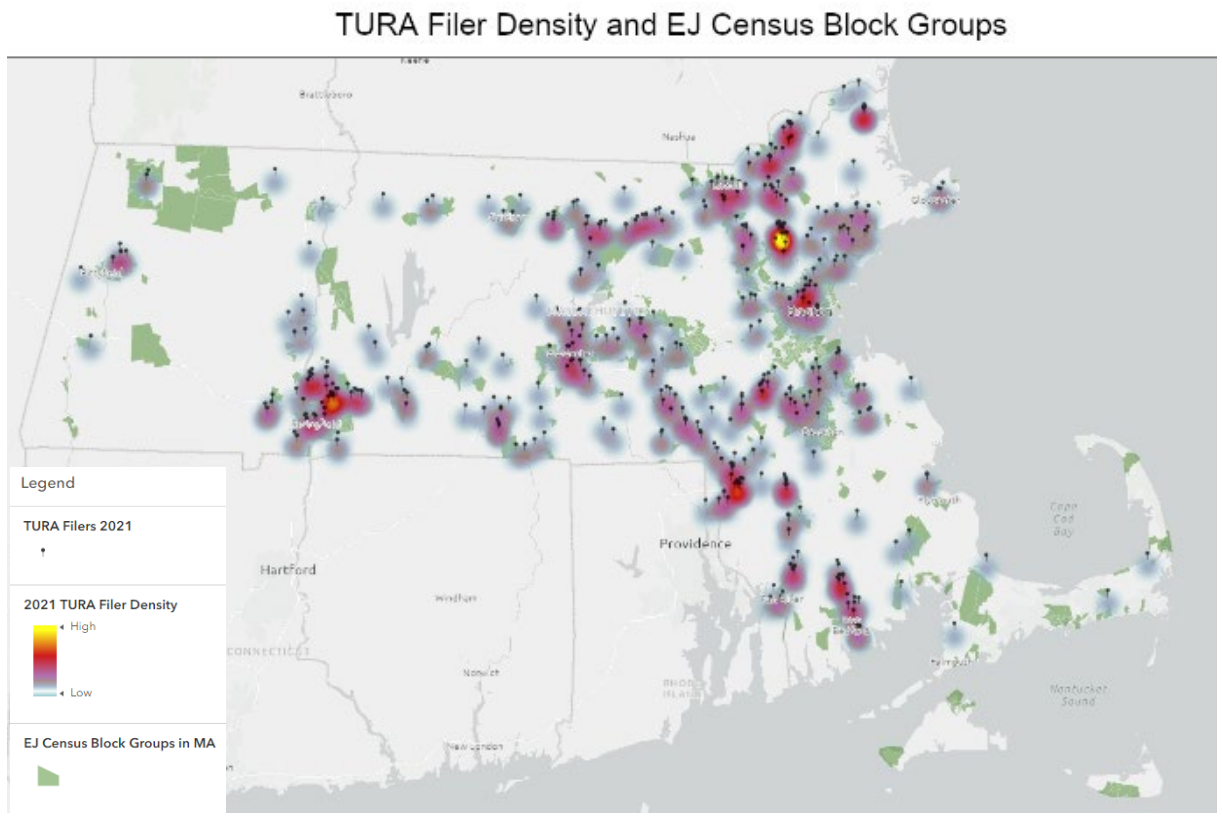
Right from the Start Revitalization

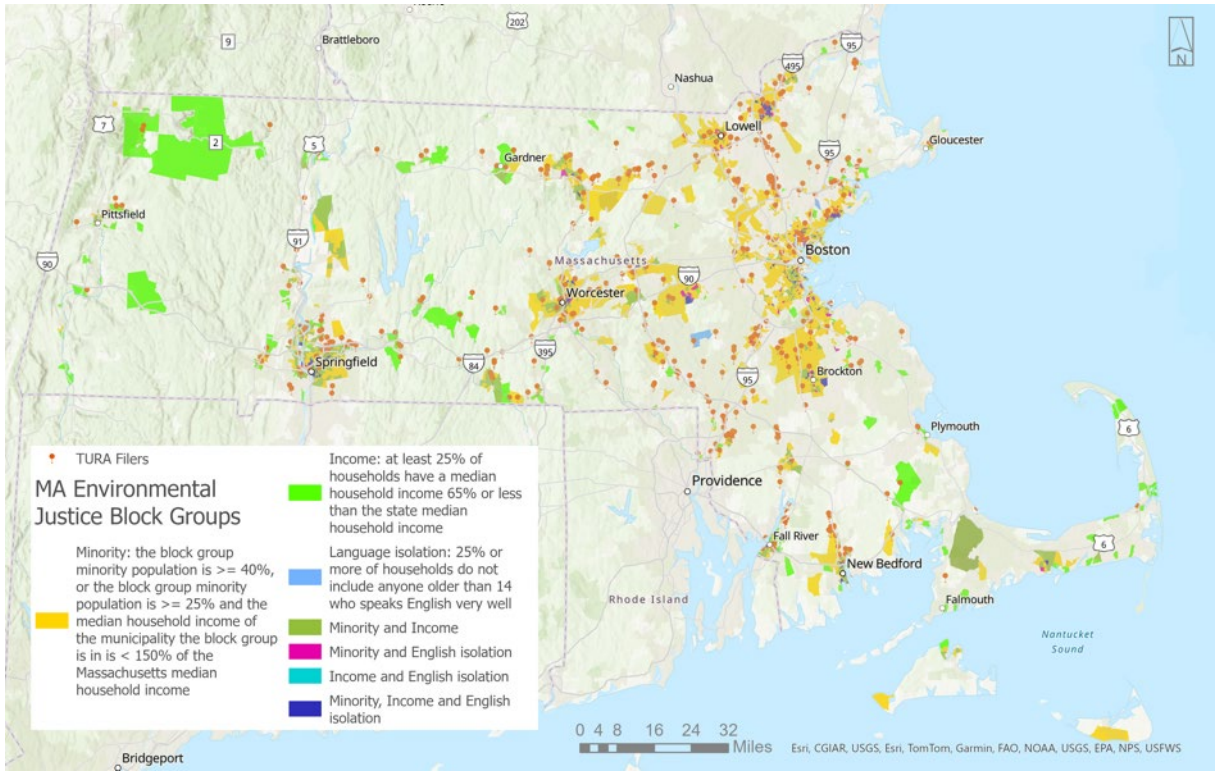
- Updating materials for OTA's 'Right from the Start' pre-permit assistance program
- Increasing cultural relevance of materials to minority-owned businesses and businesses that serve, or are located near, environmental justice populations
- Increasing outreach to above targeted businesses

Mass Clean Auto Repair (MassCAR)

- Updating MassCAR curriculum to reflect changes in law and available resources
- Modernizing format by moving curriculum online
- Refreshing printable materials

OTA Updates: TURA Filers and EJ Populations in Massachusetts





In FY24, **85%** of OTA site visits were in or near neighborhoods with environmental justice populations

OTA Updates: Environmental Justice Metrics Report

OTA Cross-cutting Strategies	Metrics
1. Outreach & Engagement	• # of OTA trainings delivered to public and industry groups on EJ and OTA mapping tools • # of OTA LinkedIn posts on EJ, outreach letters & campaigns and newsletter items • # of referrals to OTA's services to businesses near EJ populations
2. Metrics, Tracking & Analyzing Project Impacts	• Maintenance & development of EJ contact database and outreach campaign tracking capabilities • Review EJ strategy & metrics annually to identify need for modifications and prepare for annual progress reporting
3. Language Access	• # of vital documents translated and # requests for translation of other non-vital documents • Maintain tracking of Language Access Plan (LAP) implementation
4. Workforce Development & Staff Training	• # of trainings delivered to OTA staff incorporating EJ principles into their work • Track expanded recruitment and marketing of vacancy announcements and internship opportunities

OTA Updates: Environmental Justice Metrics Report

OTA Agency-Specific Strategies	Metrics
5. Technical Assistance	• # of facilities and % of site visits to manufacturers and companies located near EJ populations • Track staff outreach to facilities located near EJ populations • # of Case Studies generated pertaining to TUR in facilities located near EJ populations
6. TUR Training & TURA Program Administration	• Track incorporation of EJ-focused trainings for TUR planner CE credit • # of new EJ stakeholders subscribing to OTA newsletter • # of requests for oral interpretation for public meetings
7. Chemical Safety & Climate Resilience	• # of EJ, TUR, and Climate Justice collaborations with municipal agencies • # of referrals received for OTA technical assistance related to EJ, Chemical Safety & Climate Resilience • # of Chemical Safety & Climate Resilience trainings delivered relevant to EJ populations

OTA Updates: Staffing Changes

Technical Candidate Position Filled on 5/20/25

Current OTA interns:

- Environmental Justice intern Claire Goldberg
- MassCAR intern Everett Beals

Massachusetts Dept. of Environmental Protection (MassDEP)

For Reporting Year 2024:

- MassDEP TURA Program sent out a reporting notice to filers and TUR Planners informing of updates for the reporting year, which included additional TRI PFAS chemicals reportable this reporting year.
- MassDEP TURA Program updated the TURA chemical list and the TURA Reporting Instructions Appendices with additional chemicals
- RY2024 TURA eDEP forms went live in April

Massachusetts Dept. of Environmental Protection (MassDEP)

MassDEP will host with OTA and TURI the annual, virtual TURA Reporting Spring Training on **May 28th, 2025**

Topics will include:

- Reporting Year 2024 changes
- New TRI PFAS chemicals
- Reporting Skills and Common Issues
- Enforcement Update and Reporting Mistakes
- eDEP Training
- Data Release

Massachusetts Dept. of Environmental Protection (MassDEP)

Toxics Release Inventory Program Updates

- TRI is awaiting regulatory direction on how to proceed with proposed rules related to the annual addition of PFAS to the TRI List under the National Defense Authorization Act
- EPA HQ will not be offering Form R training this year; this duty will be left to the regions and states
- TRI filings were down by 12.5% compared to that time last year. Program kickoff email to filers has been delayed because of new internal reviews
- TRI Hotline for phone support is no longer in use – online guidance only
- Publication of the TRI National Analysis is expected in late May, delayed because of new internal reviews

Massachusetts Dept. of Environmental Protection (MassDEP)

Staffing Update:

MassDEP is in the process of backfilling two TURA Program Staff

Contact us any time!

Heather Tenney heather@turi.org
General inquiry: info@turi.org
TURI Team contact information

Tiffany Skogstrom tiffany.skogstrom@mass.gov
Also contact Tiffany for Administrative Council and Advisory Committee questions
OTA Staff: https://www.mass.gov/service-details/otas-team

Lynn Cain lynn.cain@mass.gov
C&E: Rebecca Dolan rebecca.g.dolan@mass.gov
TURP Certifications: Leoni Desai leoni.desai@mass.gov

Adjourn

Next meeting TBD

Direct all questions to
TURA Administrative Council Executive Director
Tiffany Skogstrom:
tiffany.skogstrom@mass.gov