



Compliant Vape Recycling

Northeast Recycling Council
October 7, 2026



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gsk
P R
GRAND TOY.

vtech

SUBARU

Command

CBRE

AMOREPACIFIC

IKEA

arbonne.

NESPRESSO

Carex

GOGo2
SQUEEZ

TAYTO

AS

LOCTITE

Warburton's



650+
partnerships
with major
brands

40,000+
clients
worldwide

21 years
of YoY growth in
all measurable
metrics

**TerraCycle serves on
advisory boards for
leading organizations
committed to solving
the waste crisis**



Common hard-to-recycle waste streams

TerraCycle can provide turnkey solutions for waste streams generated in your break rooms, facilities, bathrooms that employees may be using in the office or facility locations.



PPE (Gloves, hair-nets, booties, garments, glasses)



Roll-stock & scrap waste



Ink & toner cartridges



Dining disposables and snack wrappers



Textile products and uniforms



Shipping materials, labels and label backing



Cigarette waste



Water & air filters

Regulated and Universal waste streams

TerraCycle can provide turnkey solutions for waste streams generated in your break rooms, facilities, bathrooms that employees may be using in the office or facility locations.



E-Waste



Lighting



Ballasts



Solar panels



Batteries



Aerosols

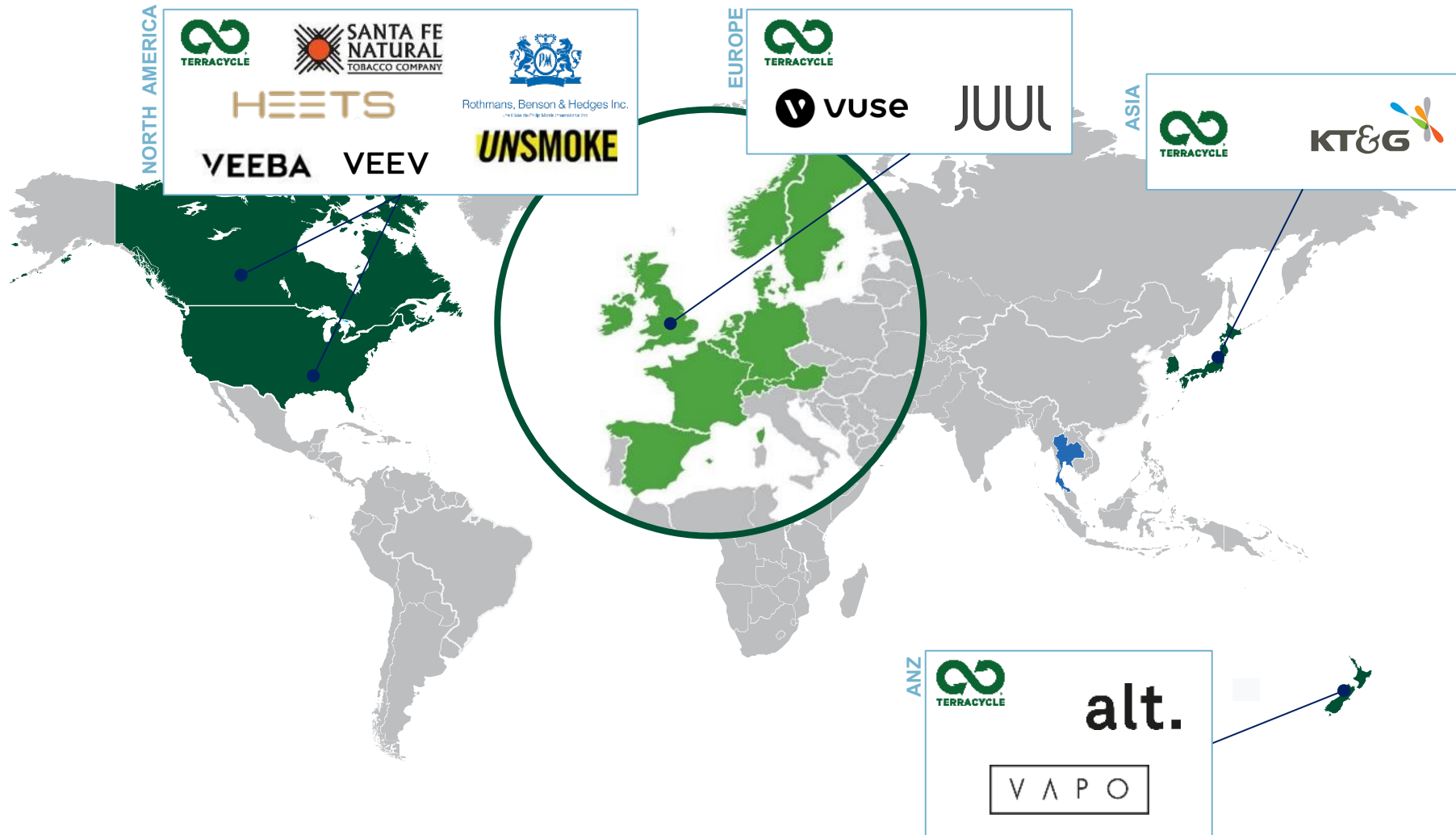


Thermostats & smoke
detectors (mercury
containing devices)



Sharps

TerraCycle® is a global leader in nicotine product recycling



TerraCycle ●

The TerraCycle Foundation ●



**TERRACYCLE
COMMERCIAL**

**The terms Vapes & E-
cigarettes are used
interchangeably here**



5.7 disposable vapes are thrown away *every second* in the US

(U.S. PIRG Education Fund)



Vape recycling with TerraCycle®
Launching in 2026!



The vape waste crisis

What is the problem in the US?

- 180 million e-cigarettes discarded annually in the US¹ with no effective solution
- Current regulatory framework and waste & recycling infrastructure is not setup to give all generators effective and efficient solutions leading to non-compliance and safety risks
- Rapid waste stream evolution leads to uncertainty about solutions
- An estimated \$95 million in damage annually of waste and recycling infrastructure in the U.S. due to improper disposal of lithium ion batteries contained in vape devices.
- Discarded and incinerated lithium from vape devices in the U.S. each year is enough to create new batteries for over 3,000 Electric Vehicles!



The vape waste crisis

Why is it challenging?

- Complex mix of plastics, metals, and lithium-ion batteries
- Nicotine content creates acute toxic hazardous waste
- Waste generated at the consumer level means high cost for HHW collection infrastructure
- High cost and lack of education drives non-compliance
- Non-compliance causes contamination of Municipal Solid Waste (MSW), battery fires in waste infrastructure, and environmentally unsafe handling of p-listed acutely toxic hazardous waste.



E-cigarette waste crisis

Why is it different here from global markets?

- *Global markets set nicotine quantity limits to enable small quantity generators to collect and handle without the burden of hazardous waste reporting, shipping & handling!*



The solution:

Recycling of vapes, the TerraCycle model

1

Compliant

- **Eliminates Large Quantity Generator status** for e-cigarette waste
- **Removes requirements** for hazardous waste storage
- **Simplifies shipping and disposal** through specialized logistics
- **Drastically reduces administrative paperwork** and compliance monitoring

The solution:

Recycling of vapes, the TerraCycle model

2

Environmental Impact

- Reclaiming critical minerals **reduces mining**
- Recycled battery materials generate significantly **lower CO₂ emissions**
- Fewer devices in trash **prevents facility fires**
- Diverting from incineration **reduces air pollution**

The solution:

Recycling of vapes, the TerraCycle model

3

Cost Effective

- Eliminate "special handling" surcharges for hazardous waste
- Access predictable, lower-cost disposal alternatives
- Mitigate risk of non-compliance fines and legal liability
- Prevent insurance premium increases from waste-fire risks

Prepaid Recycling Containers | Turnkey solution

Prepaid recycling containers provide a simple recycling solution to collect in households and municipal HHW collection sites.

Order



Customers purchase recycling containers directly from [terracycle.com](https://www.terracycle.com)

Fill



Container is filled with used e-cigarettes.

Ship



Customers ship full recycling containers to TerraCycle using the prepaid shipping label.

Recycle



TerraCycle receives the shipments and recycles the used e-cigarettes into new materials.



TerraCycle reserves the right to adjust mechanics as necessary to ensure that regulatory compliance is met where applicable.

Bulk Recycling | High volume recovery

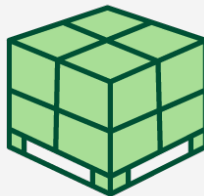
FTL or LTL volumes of e-cigarette waste on an ad hoc or ongoing basis.

Scoping



Provide TerraCycle with volume, type of e-cigarettes, and site location details to identify the optimal aggregation and recycling logistics solution.

Stage and aggregate



Stage and aggregate e-cigarette waste at each participating site location.

Ship



Choose a freight logistics option:

Self-managed: Your facility coordinates the carrier and scheduling.

TerraCycle managed:
We handle all carrier coordination and scheduling from your facility

Recycle



TerraCycle receives your shipments and recycles the e-cigarettes into new materials.



TerraCycle reserves the right to adjust mechanics as necessary to ensure that regulatory compliance is met where applicable.

Vape Categorization

TerraCycle categories vapes as used and unused to qualify for HHW and RCRA Reclamation exemptions.

HHW



Used Vapes

- Used vapes are defined as any vape that isn't in its original packaging
 - Reusable vape devices
 - Disposable vapes
 - Contain nicotine pods
 - Contain batteries
 - Can have residual product

RCRA Reclamation



Unused Vapes

Unused are vapes that are still in their original packaging and have 100% never been used

- Government seizures
 - Health departments
 - Tax authorities
 - Law enforcement
- Expired & unused merchandise
- Manufacturer off-spec

Regulatory Framework Overview

TerraCycle has worked with regulators including US EPA, MA DEP, NH DES, ATF, and ATSWAMO members to navigate Federal and State Regulations

Program Overview

Sites collect vapes as Household hazardous waste

Consumers voluntarily participate by disposing of their personal, spent e-cigarettes into designated recycling containers

The recycling and destruction process utilizes sortation, mechanical size reduction and thermal destruction.

Regulatory Classification

The Resource Conservation and Recovery Act (RCRA) and US EPA's 2026 interpretive letter classify post-consumer e-cigarettes from households as Solid Waste that is specifically granted the Household Hazardous Waste (HHW) exemption.

This exemption applies throughout the entire supply chain, from generation, through transportation, and recycling or destruction.

Transportation and DOT Compliance

Shipments are conducted via common carrier in strict adherence to Department of Transportation (DOT) Hazardous Materials Regulations.

Devices are classified and shipped as 'UN 3481, Lithium-ion batteries contained in equipment, Class 9 Miscellaneous Dangerous Goods

HHW at the State Level

The Federal Government classifies vapes as HHW. They delegate authority regarding who collects and how to the States.

HHW classification

- Multiple and single residences, hotels, motels, campgrounds, picnic grounds, day-use recreation areas (field sports areas, fishing access points, trail systems, and golf courses)
- Nationwide, all sites qualifying as a household can participate in the program (*excludes Alaska and Hawaii due to shipping cost/air transport regulation.*)

Federal Regulations

- Federal regulators (US EPA) determine which waste streams qualify as HHW.
- US EPA excludes household waste from federal hazardous waste jurisdiction (Subtitle C), leaving its collection, management, and regulation to state and local authorities under Subtitle D.

40 CFR § 261.4(b)(1)
40 CFR § 271.1(i)(1)

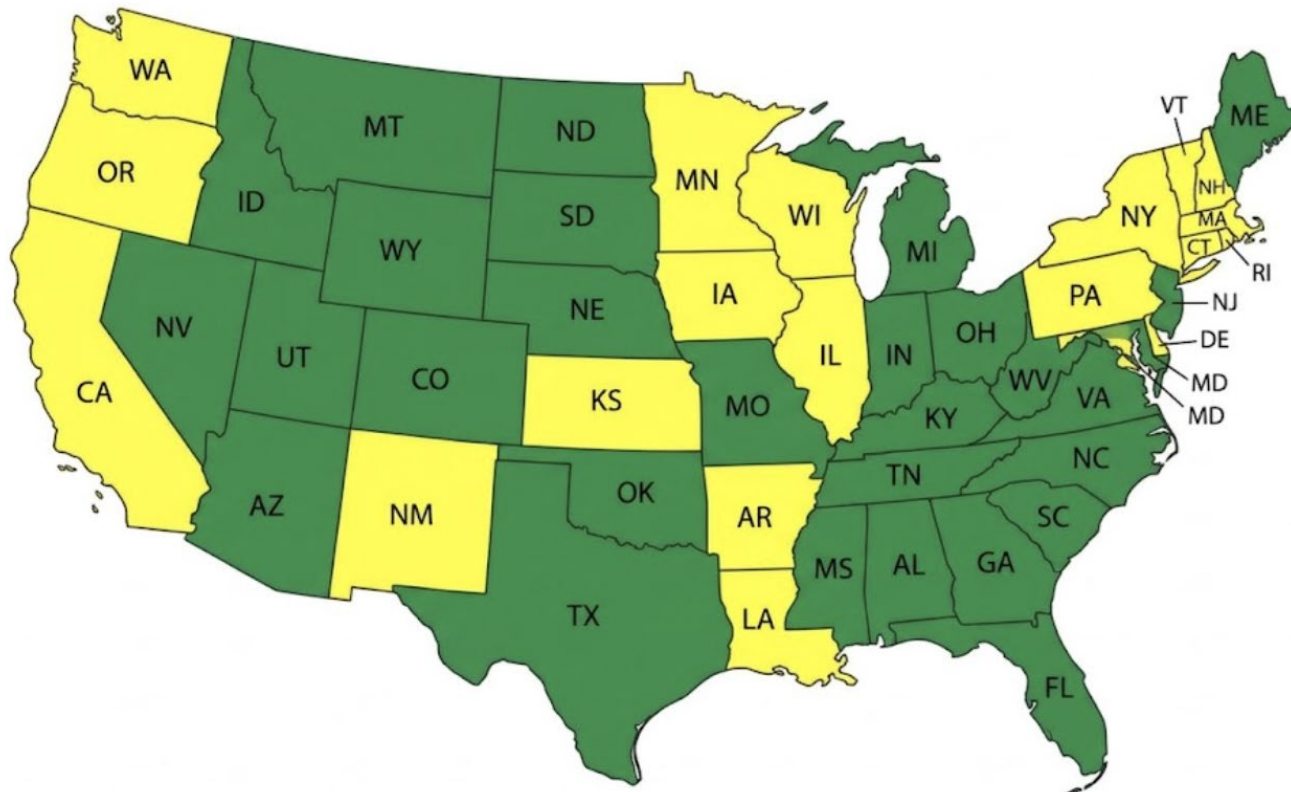
State Regulations

- State environmental agencies hold authority over who can collect HHW and how collection programs operate.
- 29 states allow sites such as schools, vape shops etc to collect vapes as HHW today
(AL, AZ, CO, FL, GA, ID, IN, KY, ME, MD, MI, MS, MO, MT, NE, NV, NJ, NC, ND, OH, OK, SC, SD, TN, TX, UT, VA, WV, WY)
- TC supports customers in other states with additional compliance measures.

Vape recycling at the State level

States in green allow sites such as schools, vape shops and waste facilities to collect vapes as HHW

Some states (yellow) have additional requirements on who can collect HHW. The TerraCycle Compliance department supports clients in states where additional compliance measures may be required (yellow).



Benefits of recycling vapes



Environmental Impact

- Reclaiming critical minerals **reduces mining**
- Recycled battery materials generate significantly **lower CO₂ emissions**
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Regulatory Simplification

- **Eliminates Large Quantity Generator status** for e-cigarette waste
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Cost Savings

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- Access predictable, **lower-cost disposal** alternatives
- **Mitigate risk of non-compliance fines** and legal liability
- **Prevent insurance premium increases** from waste-fire risks

Contact info



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