Extended Producer Responsibility Commission

DRAFT

Background document for policy recommendation on

ELECTRONICS

Prepared by GreenerU for MassDEP

Last updated:

October 8, 2025

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Executive Summary

Electronics ownership in the U.S. has burgeoned in recent decades. The average American has 24 devices per household, with total ownership of more than 3 billion electronic products in the U.S.[1] Many of these products have an increasingly shorter lifespan, resulting in e-waste becoming the fastest-growing component of the municipal waste stream in the U.S.[2]

Electronic waste by weight in landfills has steadily declined, however. A study by researchers at the Rochester Institute of Technology's Institute for Sustainability and the Yale Center for Industrial Ecology has estimated that e-waste generation peaked in 2015 nationally and has been declining in the past decade.[3] Additionally, the most recent U.S. Environmental Protection Agency data showcase that electronics are the fastest declining product in the municipal solid waste stream as well as making up less than 1% by weight of all municipal solid waste.[4] Although not a large fraction of overall weight, electronics contain a number of toxic components including lead, cadmium, arsenic, nickel, flame retardants, and other toxics.

According to the Consumer Technology Association, manufacturers are producing electronic devices with fewer and lighter materials enabled by technological innovations. Materials used in consumer technology products have continuously improved and devices now result in much less e-waste. Problem materials have also been designed out of new products.

In Massachusetts, of 4.5 million tons of municipal solid waste, 0.4% was characterized as computer-related electronics, brown goods, televisions, and computer monitors in 2022, which amounted to 18,000 tons.[5] This is a drop from 3.3%, or 155,000 tons in 2010 and 0.8%, or 54,500 in 2019.

The U.S. Environmental Protection Agency (EPA) has illuminated concerns about the unsafe handling of electronic waste, particularly in developing countries, resulting in harm to human health and the environment.[6] These concerns include:

- Open-air burning and acid baths used to recover materials from electronic components
- Toxic materials leaching into the environment

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[1] U.S. Environmental Protection Agency, "Helping communities manage electronic waste," published June 1, 2021, and last updated June 23, 2025; accessed July 21, 2025, from https://www.epa.gov/sciencematters/helping-communities-manage-electronic-waste.

[2] Ibid.

[3] Althaf, Shahana, Babbitt, Callie, and Chen, Roger, "The evolution of consumer electronic waste in the United States," Journal of Industrial Ecology, June 2021: Vol. 25, No. 3: 693–706.

[4] U.S. Environmental Protection Agency, "Durable goods: product-specific data," 2018 data, accessed July 22, 2025, from https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/durable-goods-product-specific-data.

[5] MassDEP Waste Characterization Studies 2010, 2019, and 2022. "Computer-related electronics" includes computer CPUs, laptop computers, notebook computers, processors, printers, scanners, keyboards, etc. This category does not include automated typewriters or typesetters, portable handheld calculators, portable digital assistants or other similar devices. "Brown goods" includes cell phones, iPods, PDAs, small electronic appliances such as toasters, telephones, stereos, radios, clocks, hair dryers, etc. "Televisions and computer monitors" mean a stand-alone display system containing a cathode ray tube (CRT) or any other type of display primarily intended to receive video programming via broadcast. Examples also include non-CRT units such as plasma and LCD monitors.

[6] U.S. Environmental Protection Agency, "Cleaning up electronic waste (e-waste)," accessed July 21, 2025, from https://www.epa.gov/international-cooperation/cleaning-electronic-waste-e-waste.

- Worker exposure to contaminants such as lead, mercury, cadmium, and arsenic
- Irreversible health effects, including cancers, miscarriages, neurological damage, and diminished IQs
- Brominated flame-retardant contents, which have been linked to endocrine disruption and thyroid dysfunction[7]

In Massachusetts, fees charged to residents range anywhere from free to $50 per item to drop off, according to the Department of Environmental Protection (MassDEP). Furthermore, electronic waste collection locations in Massachusetts are an inconsistent patchwork. Some collectors, including municipalities, register on a section of the Recycle Smart website called Beyond the Bin, where consumers can search for one of 385 drop-off locations for computers and home electronics.[8] Of 351 Massachusetts cities and towns MassDEP received reporting from 288 in 2024:[9]

- 276 Massachusetts municipalities reported that they collect televisions and computers.
- Of those, 268 reported that they collect additional electronics, including DVDs, VCRs, phones, stereos, and other electronics.
- 227 municipalities representing 4.9 million people (69% of state) reported collecting over 2800 tons of electronics at a cost of up to $2 million dollars. Recycling the remaining 18,000 tons still being disposed through municipal efforts could cost up to $15 million annually.[10] This does not include the cost of operating the collection point.

Methods of municipal e-waste collection in Massachusetts also vary:

- 126 municipalities reported drop-off trash with likely electronics collection at small transfer stations.
- 110 municipalities reported curbside trash collection and likely similar electronics collection.
- 29 municipalities reported both drop-off and curbside trash collection but did not specify whether electronic waste was collected via drop-off or curbside.
- 11 are subscription municipalities and did not indicate how e-waste is collected.[11]

Collection frequency in Massachusetts also varies:

- 214 municipalities collect electronic waste year-round.
- 62 collect electronics at varied frequencies, including one-day special collection events, monthly, or less frequently.

Electronics EPR legislation has the potential to recover valuable electronics components, streamline electronics recycling programs across the state, clarify recyclable products and eligible entities to participate, and adhere to a variety of other safe, responsible best practices in processing electronic waste.

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[7] National Institutes of Health, National Institute of Environmental Health Sciences, "Flame retardants," accessed July 21, 2025 from https://www.niehs.nih.gov/health/topics/agents/flame_retardants.

[8] RecycleSmartMA.org, "Beyond the Bin" database, accessed July 22, 2025 from https://recyclesmartma.org/beyond-the-bin-search/?_material=computers-home-electronics.

[9] Based on data reported by municipalities through the 2024 Municipal Solid Waste and Recycling Survey. See Open XLSX file, 207.69 KB, 2024 Municipal Solid Waste & Recycling Survey Responses (English, XLSX 207.69 KB)

[10] MassDEP extrapolation of remaining electronics waste (18,000 tons) managed through municipal collection programs at $0.39/lb.

[11] Subscription trash collection is when the municipality does not play a role in providing solid waste management services to residents. Residents are required to independently subscribe for these services.

Extended Producer Responsibility Commission Recommendation

The Commission endorses enactment of legislation to establish an extended producer responsibility program for electronics. The Commission recommends the development and implementation of a program that aligns with existing programs in other states to the greatest extent possible.

The Commission acknowledges proposed electronics EPR legislation under consideration before the Massachusetts legislature at the time of this recommendation—H.1015 and S.653—but does not endorse any specific bill.

Specific recommendations on elements of electronics EPR legislation are as follows:

Covered products	Computers, laptops, tablets, monitors, televisions, printers, computer peripherals; in 2026 to include fax machines, DVD players, VCRs, portable music players, game consoles, digital converter boxes, cable/satellite receivers, scanners, small-scale servers, routers, modems
Covered entities	Households, schools, government, small business
Performance goal	Convenience standard and target reduction of electronics in the waste stream
Collection/recycling service	Must include municipal electronics collection points
Financial structure	No fee to covered entity. Funding covered by producer based on market share of total cost, including orphaned electronics.
Recycling standards	Entities processing electronics on behalf of producers must have E-stewards, R2 certification or equivalent
Outreach and education	Comprehensive outreach and education plan by producers

Other recommended initiatives to consider

Although most electronic EPR laws do not include issues related to the right to repair, several states (California, Connecticut, New York, Oregon) have passed right-to-repair legislation or have legislation pending. A right-to-repair law would make extending the life of existing electronics easier by increasing consumer and repair shops' access to necessary parts, tools, and documentation.

Background: The Problem

Electronics ownership in the U.S. has burgeoned in recent decades. The average American has 24 devices per household, with total ownership of more than 3 billion electronic products in the U.S.[12] Many of these products have an increasingly shorter lifespan, resulting in e-waste becoming the fastest-growing component of the municipal waste stream in the U.S.[13]

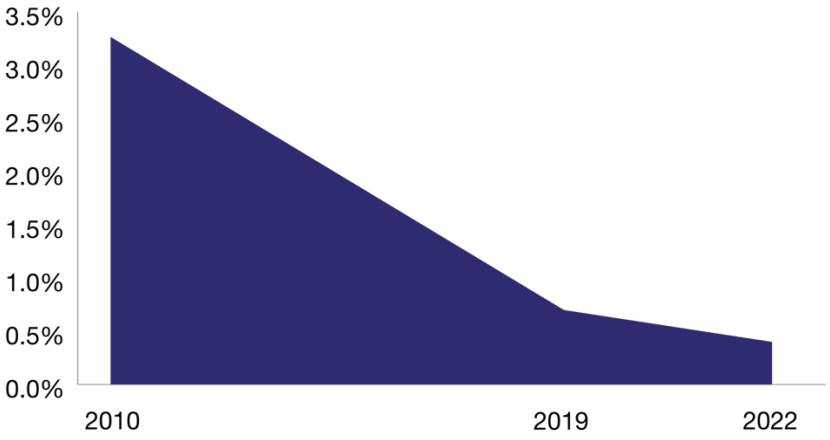
Electronic waste by weight in landfills has steadily declined, however. A study by researchers at the Rochester Institute of Technology's Institute for Sustainability and the Yale Center for Industrial Ecology has estimated that e-waste generation peaked in 2015 nationally and has been declining in the past decade.[14] Additionally, the most recent U.S. Environmental Protection Agency data showcase that electronics are the fastest declining product in the municipal solid waste stream as well as making up less than 1% by weight of all municipal solid waste.[15] Although not a large fraction of overall weight, electronics contain a number of toxic components including lead, cadmium, arsenic, nickel, flame retardants, and other toxics.

According to the Consumer Technology Association, manufacturers are producing electronic devices with fewer and lighter materials enabled by technological innovations. Materials used in consumer technology products have continuously improved and devices now result in much less e-waste. Problem materials have also been designed out of new products. For example, the old cathode ray tube (CRT) technology required leaded glass but has been replaced by two subsequent generations of video display technologies that produce better displays without leaded glass.[16]

In Massachusetts, of 4.5 million tons of municipal solid waste, 0.4% was characterized as computer-related electronics, brown goods, televisions, and computer monitors in 2022, which amounted to 18,000 tons.[17] This is a drop from 3.3%, or 155,000 tons in 2010 and 0.8%, or 54,500 in 2019, as shown in Figure 1.

[12] U.S. Environmental Protection Agency, "Helping communities manage electronic waste," published June 1, 2021, and last updated June 23, 2025; accessed July 21, 2025, from https://www.epa.gov/sciencematters/helping-communities-manage-electronic-waste.
[13] Ibid.
[14] Althaf, Shahana, Babbitt, Callie, and Chen, Roger, "The evolution of consumer electronic waste in the United States," Journal of Industrial Ecology, June 2021: Vol. 25, No. 3: 693–706.
[15] U.S. Environmental Protection Agency, "Durable goods: product-specific data," 2018 data, accessed July 22, 2025, from https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/durable-goods-product-specific-data.
[16] Data provided by Katie Reilly, Consumer Technology Association, on July 18, 2025.
[17] MassDEP Waste Characterization Studies 2010, 2019, and 2022. "Computer-related electronics" includes computer CPUs, laptop computers, notebook computers, processors, printers, scanners, keyboards, etc. This category does not include automated typewriters or typesetters, portable handheld calculators, portable digital assistants or other similar devices. "Brown goods" includes cell phones, iPods, PDAs, small electronic appliances such as toasters, telephones, stereos, radios, clocks, hair dryers, etc. "Televisions and computer monitors" mean a stand-alone display system containing a cathode ray tube (CRT) or any other type of display primarily intended to receive video programming via broadcast. Examples also include non-CRT units such as plasma and LCD monitors.

Figure 1. — Percent change in computer-related electronics, brown goods, televisions, and computer monitors in Massachusetts municipal solid waste[18]



Discarded electronic waste

The U.S. Environmental Protection Agency (EPA) has illuminated concerns about the unsafe handling of electronic waste, particularly in developing countries, resulting in harm to human health and the environment.[19] These concerns include:

- Open-air burning and acid baths used to recover materials from electronic components
- Toxic materials leaching into the environment
- Worker exposure to contaminants such as lead, mercury, cadmium, and arsenic
- Irreversible health effects, including cancers, miscarriages, neurological damage, and diminished IQs
- Brominated flame-retardant contents, which have been linked to endocrine disruption and thyroid dysfunction[20]

Electronic waste collection in the U.S. and Massachusetts

In 2009, the EPA estimated nationally that e-waste totaled 2.37 million tons; 25% of these electronics were collected for recycling, with the remainder disposed of in landfills.[21]

In Massachusetts, fees charged to residents range anywhere from free to $50 per item to drop off, according to the Department of Environmental Protection (MassDEP). Municipalities may use a state contract (FAC110) for the collection and recycling of mixed electronics, which is priced at $0.19–$0.39 per pound. Electronics retailers typically do not charge a fee, except for cathode ray tubes in some cases. Some retailers and manufacturers offer mail-back options.

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[18] MassDEP Waste Characterization Studies 2010, 2019, and 2022.
[19] U.S. Environmental Protection Agency, "Cleaning up electronic waste (e-waste)," accessed July 21, 2025, from https://www.epa.gov/international-cooperation/cleaning-electronic-waste-e-waste.
[20] National Institutes of Health, National Institute of Environmental Health Sciences, "Flame retardants," accessed July 21, 2025 from https://www.niehs.nih.gov/health/topics/agents/flame_retardants.
[21] EPA "Cleaning up."

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Methods of municipal e-waste collection in Massachusetts also vary:

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- 11 are subscription municipalities and did not indicate how e-waste is collected.[25]

Collection frequency in Massachusetts also varies:

- 214 municipalities collect electronic waste year-round.
- 62 collect electronics at varied frequencies, including one-day special collection events, monthly, or less frequently.

In 2004, MassDEP provided grant funding to municipalities to establish collection programs, but these grant programs are no longer in place. Costs of electronics collection throughout Massachusetts have not been calculated, but the MassDEP awarded a grant to collect this information in 2025.

Licensing requirements, regulations, and permits for electronics recyclers

At present, there are two certification programs for responsible electronics recycling: R2, administered by the Sustainable Electronics Recycling International (SERI), and e-Stewards formed by the Basel Action Network.[26] Each organization regularly updates their standards and requires that an accredited certification body audit a recycling facility before granting certification. Each recycling facility, as opposed to company, must pass an audit to be certified. Certificates are valid for a specified period of time before recertification to the current

[22] RecycleSmartMA.org, "Beyond the Bin" database, accessed July 22, 2025 from https://recyclesmartma.org/beyond-the-bin-search/?_material=computers-home-electronics.

[23] Based on data reported by municipalities through the 2024 Municipal Solid Waste and Recycling Survey. See Open XLSX file, 207.69 KB, 2024 Municipal Solid Waste & Recycling Survey Responses (English, XLSX 207.69 KB)

[24] MassDEP extrapolation of remaining electronics waste (18,000 tons) managed through municipal collection programs at $0.39/lb.

[25] Subscription trash collection is when the municipality does not play a role in providing solid waste management services to residents. Residents are required to independently subscribe for these services.

[26] See https://sustainableelectronics.org/r2/ and https://e-stewards.org/the-e-stewards-standard/ for more information about standards and certification processes.

standard is required. R2 or e-Stewards may perform additional surveillance or surprise audits throughout the year.

In general, certifications focus on:

- Responsible management and a leadership commitment of the overall company to responsible electronics recycling practices
- Legal requirements and compliance monitoring, which could include requirements regarding forced labor, non-discrimination policies, import/export compliance, and more
- Environmental, health, and safety management systems and practices
- Tracking throughput of materials (e.g., mass balance accounting, bills of lading) including documenting downstream disposition (where material outputs end up)
- Packaging, storing, transporting, sorting/categorizing and recycling processes including documentation, recordkeeping procedures, equipment, etc.
- Data security and sanitization
- Reuse and refurbishment processes
- Management of materials of concern—also called focus materials—typically requiring greater care in the overall management and recycling process (e.g., batteries, cathode ray tubes, circuit boards, mercury, etc.)
- Facility safety and security, including health and safety of workers as well as contingency planning and insurance

In addition, some electronics recyclers may choose to pursue additional certifications beyond R2 or e-Steward via the International Organization for Standards (ISO). Manufacturers may also require recyclers to obtain these certifications. Certifications in quality management systems, environmental management systems, and occupational health and safety management systems can augment recyclers' standards and assist in meeting R2 or e-Steward certification requirements.

In Massachusetts, electronic waste and cathode ray tube recycling are conditionally exempt from state hazardous waste regulations when managed for donation or recycling.[27] If the electronic waste—such as circuit boards or cathode ray tubes—are not handled in accordance with the regulatory requirements, they revert to being a hazardous waste subject to the full requirements of 310 CMR 30.0000.

Electronics recycling

Electronic products can contain a number of valuable resources and materials that can be extracted and recycled in lieu of using virgin materials. These materials include low- or no-value materials such as plastics and glass, as well as high-value metals such as gold, copper, nickel, indium, and palladium.[28,29]

The e-waste recycling process consists of the following phases:

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[27] Massachusetts Department of Environmental Protection, "310 CMR 30.000: Massachusetts Hazardous Waste Regulations," accessed July 22, 2025, from https://www.mass.gov/regulations/310-CMR-30000-massachusetts-hazardous-waste-regulations.

[28] U.S. Environmental Protection Agency, "Electronics donation and recycling," accessed July 21, 2025, from https://www.epa.gov/recycle/electronics-donation-and-recycling.

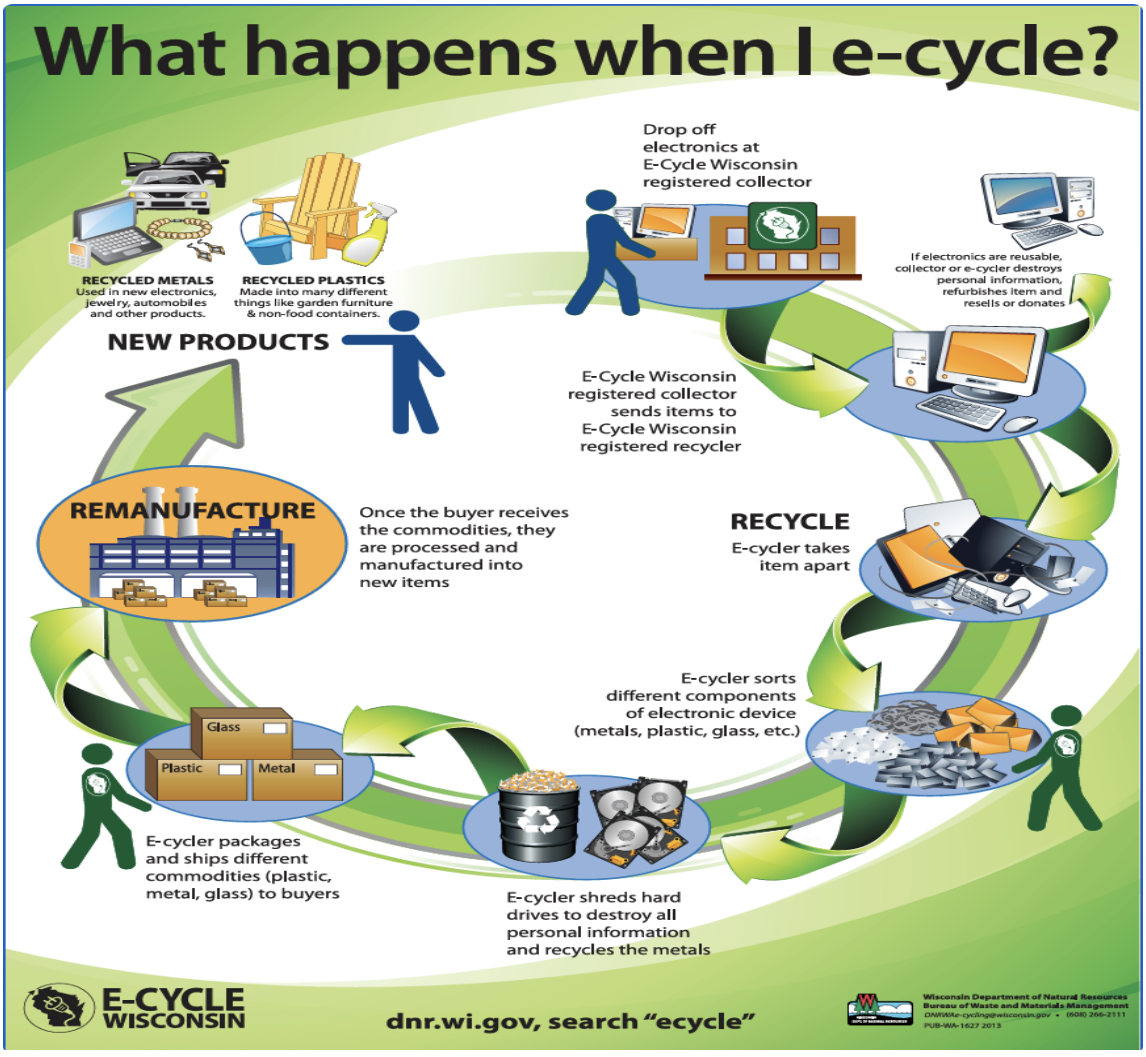
[29] U.S. Environmental Protection Agency, "Helping communities manage electronic waste," published June 1, 2021, and last updated June 23, 2025; accessed July 21, 2025, from https://www.epa.gov/sciencematters/helping-communities-manage-electronic-waste.

1. Consumer drops off electronics with an e-waste collector
2. Collector sends e-waste to an electronics recycler
3. Electronics recycler destroys personal information on reusable/refurbishable items and resells OR electronics recycler dismantles the devices either via shredding or manual dismantling processes
4. The electronics recycling process separates e-waste into commodities (metals, plastic, glass, etc.). Electronics recyclers ship individual commodities to downstream vendors
5. Commodities are processed and manufactured into new items

The recycling process can also vary greatly across recyclers from predominantly manual dismantling to advanced shredding technology, CRT glass cleaning systems, and flat panel display processing technology.

Figure 2 from the Wisconsin Department of Natural Resources illustrates this cycle.

Figure 2. — Wisconsin's e-cycling process[30]



[30] Wisconsin Department of Natural Resources, "What happens when I e-cycle?" flyer, accessed July 22, 2025, from https://apps.dnr.wi.gov/doclink/waext/wa1627.pdf.

Market for downstream recycled components

According to the Consumer Technology Association, demand for recycled e-waste commodities includes the broad categories of metals, plastic, circuit boards, batteries, and glass. Prices for such commodities fluctuate, as they do for other recycled goods; metals (aluminum, copper, and circuit boards) are typically of higher value, whereas some materials have low, no, or even negative value (plastics, glass).

Electronics EPR Programs

According to the Product Stewardship Institute (PSI), extended producer responsibility (EPR) programs have been in place in other U.S. states since 2004. Unlike categories such as paint or mattresses, electronics EPR programs vary significantly from state to state.

Twenty-four states plus the District of Columbia have some form of electronics EPR program in place as of July 2025:

- Ten states plus the District of Columbia require that electronics producers meet weight-based recycling goals based on a percentage of total sales of products covered under the law. In most cases, financial penalties are assessed against manufacturers based on the weight of electronics not recycled in comparison to the goals. In most cases, manufacturers' fees are established via negotiation with recyclers.

- Fifteen states operate programs based around other parameters, such as convenience standards, with manufacturers paying their assessed market share to a collection and recycling system or simply providing educational information for voluntary programs. Fees are established through a variety of means, ranging from negotiation with recyclers to state agencies setting rates.

- California requires consumers to pay a recycling fee at the point of purchase for specific electronics. That fee is remitted to the state, which then reimburses the collection and recycling system for managing specific electronics covered under the program. This is not an EPR program by definition as the program is funded by consumer and run by the state government.

Tables 1 and 2 provide a distilled list of program characteristics by participating states.

Table 1. — Characteristics of state electronics EPR programs with weight-based goals.[31]

State	Penalties for unmet weight goals	Products recycled	Eligible entities
Hawaii	$1.50/lb	Desktops, e-readers, laptops, monitors, printers, tablets, televisions	Individuals, businesses, partnerships, LLCs, corporations, nonprofits, government, public

[31] Data from the Consumer Technology Association.

			benefit corporations, public authorities
Indiana	$0.40/lb @ < 50% goal met $0.30/lb @ ≥ 50% < 90% goal met $0.20/lb @ ≥ 90% goal met	E-readers, laptops, monitors, tablets, televisions, computers, keyboards, printers, fax machines, DVD players, VCRs	Household/consumers, schools, businesses
Michigan	None	Televisions	Households, small businesses (up to seven TVs/day)
Minnesota	$0.50/lb @ < 50% goal met $0.40/lb @ ≥ 50% < 90% goal met $0.30/lb @ ≥ 90% goal met	Televisions, monitors, computers, laptops, tablets, keyboards, printers, fax machines, DVD players, VCRs	Households
New Jersey	$0.50/lb	Computers, monitors, laptops, portable computers, desktop printers, desktop fax machines, televisions	Consumers, state entities, schools, local governments, small businesses (<50 FTEs)
New York	$0.50/lb @ < 50% goal met $0.40/lb @ ≥ 50% < 90% goal met $0.30/lb @ ≥ 90% goal met	Computers, laptops/notebooks, e-readers, smart displays, smart watches, virtual reality headsets (with processors), printers (<100 lbs), keyboards, mice, external hard drives, label printers (<100 lbs), digital picture frames, fax machines (<100 lbs), cable/satellite receivers, digital converter boxes DVD players, DVRs, video game consoles, portable digital music players, Project (with DVD player capability), FCRs, small-scale servers, televisions, cables/cords	Consumers, businesses, corporations, limited partnerships, nonprofits, public corporations, schools, government
North Carolina	None	Televisions	Households, nonprofits (<10 FTEs)
Pennsylvania	$2/lb + 10%	Computers, laptops, computer monitors, peripherals (printers, keyboards, mice), televisions	Households, small businesses (<50 FTEs)
Texas	None	Televisions	Households
Washington, D.C.	$0.58/lb @ < 50% goal met $0.46/lb @ ≥ 50% < 90% goal met $0.35/lb @ ≥ 90% goal met	Computers, laptops, tablets, e-readers, keyboards, mice, printers (<100 lbs), computer monitors,	Households, small businesses, nonprofits

		televisions, VCRs, DVRs, DVD players, game consoles, signal converter boxes, cable/satellite/digital media receivers	
Wisconsin	$0.50/lb @ < 50% goal met $0.40/lb @ ≥ 50% < 90% goal met $0.30/lb @ ≥ 90% goal met	Computers, laptops, small-scale servers, tablets, printers, monitors, televisions, peripherals (keyboards, mice, cords, headsets, scanners, speakers, webcams, cable/satellite receivers, digital converter boxes, remotes, security/surveillance system cameras, streaming devices/receivers), DVRs, DVD players, fax machines, cell phones, telephones, VCRs, video game systems, portable hand-held video games	Households, K12 schools

Table 2. — Characteristics of state electronics EPR programs without weight-based goals.[32]

State	Program structure	Products	Eligible entities
Connecticut	Market share of total cost	Computers (desktop, portable), computer monitors, printers, televisions, tablets, e-readers, phones > 4”	Households
Illinois	Manufacturer takeback program meeting convenience standards	Computers, computer monitors, televisions, printers, keyboards, fax machines, VCRs, portable digital music players, DVD players, video game consoles, mice, scanners, digital converter boxes, cable/satellite receivers, DVRs, small-scale servers, home audio components, peripherals	Any entity returning seven or fewer items
Maine	Market share of total cost	Televisions, monitors, laptops, tablets, e-readers, game consoles, portable DVD players, digital picture frames, virtual-reality headsets	Household/consumer, nonprofits, schools, small businesses (<100 employees)
Maryland	Manufacturer takeback program	Computers, e-readers, laptops, monitors, tablets, televisions	Any
Missouri	Manufacturer takeback program	Computers, e-readers, laptops, monitors, tablets	Households

[32] Data from the Consumer Technology Association.

Oklahoma	Manufacturer takeback program	Computers, e-readers, laptops, tablets, monitors	Households
Oregon	Manufacturer takeback program meeting convenience standards	Computers, laptops, tablets, monitors, televisions, printers, computer peripherals; in 2026 to include fax machines, DVD players, VCRs, portable music players, game consoles, digital converter boxes, cable/satellite receivers, scanners, small-scale servers, routers, modems	Any returning seven or fewer items
Rhode Island	Manufacturer takeback program or participation in state-run program	Computers, monitors, laptops, televisions, tablets	Households, schools
South Carolina	Manufacturer takeback program meeting convenience standards	Computers, monitors, laptops, televisions, tablets, printers	Households
Utah	Consumer education program only	Computers, e-readers, keyboards, laptops, monitors, portable DVD players, printers, tablets, televisions	Households
Virginia	Manufacturer takeback program	Computers, laptops, monitors	Households
Vermont	Manufacturer opt-out program or participation in market share of total cost	Computers, laptops, monitors, printers, tablets, televisions	Any returning seven or fewer items
Washington	Manufacturers implement an independent program	Computers, laptops, monitors, Televisions, tablets, e-readers, portable DVD players	Households
West Virginia	Takeback program or higher registration fee	Computers, laptops, monitors, televisions, tablets	Households, nonprofits, schools, government, small- to medium-sized businesses

In developing an EPR solution for electronics recycling in Massachusetts, collection frequency and convenience should be taken into consideration. Population density resources are available through the Mass.gov website.[33]

[33] Massachusetts Executive Office of Technology Services and Security, Bureau of Geographic Information, "MassGIS Data: 2020 U.S. Census." Accessed July 22, 2025, from https://www.mass.gov/info-details/massgis-data-2020-us-census.

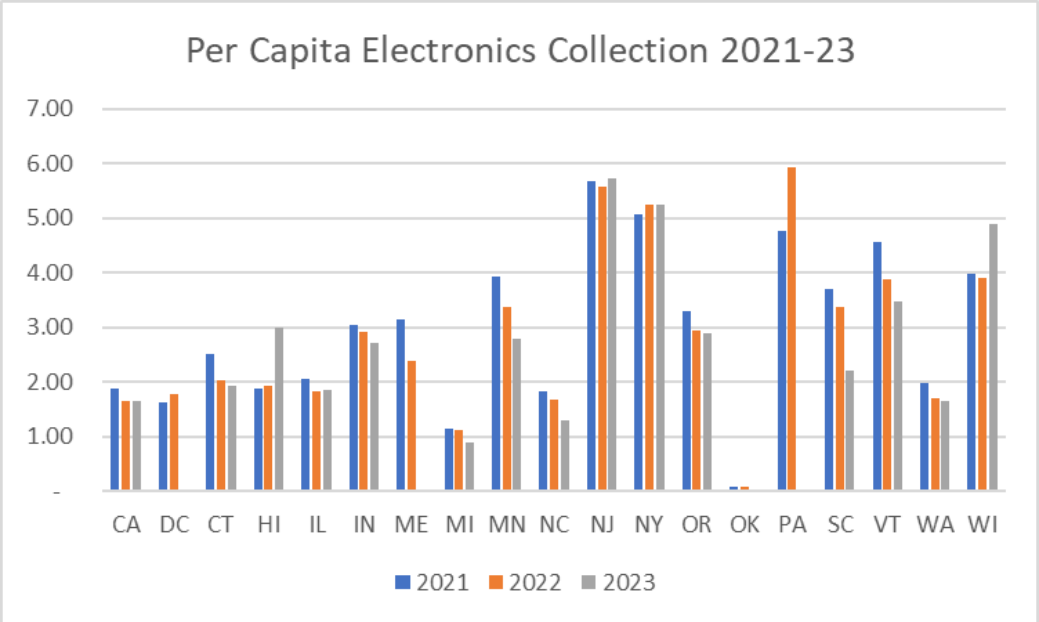
PSI identified the following typical implementation challenges of older laws regarding electronics EPR programs in other states:[34]

- Limiting the scope of e-waste products and participating entities does not meet the need for electronics waste diversion.
- Producers may interpret weight-based goals as a ceiling versus a floor and may therefore stop paying or collecting once their goal has been reached, destabilizing program funding, and leaving municipalities to cover the remaining costs.
- As the weight of electronic devices has decreased, weight-based metrics have become an insufficient measure of program success.
- The lack of convenience standards limits access to services.
- The lack of a coordinating body (PRO or clearinghouse) contributes to statewide inconsistency of outreach, education, and awareness.
- When there is no funding mechanism defined, programs are funded inadequately.

Program success in participating states

Again, while programs vary in terms of eligible entities to participate and items collected, collection rates are more successful in some states than in others in terms of the weight of electronic waste collected per capita, illustrated in Figure 3.

Figure 3. — State electronics EPR program performance in pounds per capita[35]



As a rule of thumb, the Product Stewardship Institute has identified 16 characteristics of stable electronics EPR programs:

[34] Observations from the Product Stewardship Institute included in the Massachusetts EPR Commission electronics advisory group slide deck, June 30, 2025.
[35] Data provided by NCER to EPRC at a September 17, 2025, meeting.

1. Scope should be comprehensive
2. Brands, manufacturers, and importers can be responsible parties
3. There can be one or more stewardship organizations, but will benefit from a coordinating body or producer responsibility organization (PRO)
4. Eligible entities should include, at a minimum, residents, schools, small businesses, and governments
5. Funding should be covered by producers according to market share, not weight goals
6. Performance goals should be established based on prior year's data or a formula
7. Convenience should be based on population and distance to a collection site
8. Recyclers should be required to have e-Stewards or R2 certification
9. Operating standards should be based on a materials management hierarchy, where the state environmental agency provides an oversight and enforcement role, and all eligible collection sites can participate
10. Each stewardship plan should describe how a program will be implemented to meet the statute
11. Outreach and education campaigns should reach all residents, including educational materials for retailers; outreach programs should include evaluation according to awareness of the program
12. EPR laws should align with other such laws and have no negative effect on market competition
13. There should be no preemption of existing local laws
14. Disposal bans should be phased in once the recycling program is well established
15. Penalties, administrative, and agency oversight fees should be covered by producers
16. Each program should undergo an annual audit to include outcomes

Electronics Advisory Group

The Commission acknowledged the need for additional dialog and information in its pursuit of a recommendation on EPR for electronics. To achieve this, on May 21, 2025, the Commission established an advisory group to be comprised of commission members, stakeholders, and the public. The advisory group held meetings on June 30 and July 28, 2025. Advisory group agendas, slides, meeting notes and additional information can be found on the MassDEP EPR Commission webpage at https://www.mass.gov/info-details/extended-producer-responsibility-commission.

Public Comment

Public comments received by the Commission regarding extended producer responsibility for electronics are posted on the MassDEP EPR Commission webpage at https://www.mass.gov/info-details/extended-producer-responsibility-commission.

DRAFT EPR Commission Recommendation

Table 3 shows a detailed breakdown of how the EPR Commission voted on the following resolution:

> The Commission endorses enactment of legislation to establish an extended producer responsibility program for electronics. The Commission recommends the development and implementation of a program that aligns with existing programs in other states to the greatest extent possible.
>
> The Commission acknowledges proposed electronics EPR legislation under consideration before the Massachusetts legislature at the time of this recommendation—H.1015 and S.653—but does not endorse any specific bill.
>
> Specific recommendations on elements of electronics EPR legislation are as follows:

Covered products	Computers, laptops, tablets, monitors, televisions, printers, computer peripherals; in 2026 to include fax machines, DVD players, VCRs, portable music players, game consoles, digital converter boxes, cable/satellite receivers, scanners, small-scale servers, routers, modems
Covered entities	Households, schools, government, small business
Performance goal	Convenience standard and target reduction of electronics in the waste stream
Collection/recycling service	Must include municipal electronics collection points
Financial structure	No fee to covered entity. Funding covered by producer based on market share of total cost, including orphaned electronics.
Recycling standards	Entities processing electronics on behalf of producers must have E-stewards, R2 certification or equivalent
Outreach and education	Comprehensive outreach and education plan by producers

Other recommended initiatives to consider

Although most electronic EPR laws do not include issues related to the right to repair, several states (California, Connecticut, New York, Oregon) have passed right-to-repair legislation or have legislation pending. A right-to-repair law would make extending the life of existing electronics easier by increasing consumer and repair shops' access to necessary parts, tools, and documentation.

Table 3. —Extended Producer Responsibility Commission vote on enacting mattress stewardship legislation[36]

Commissioner	Title, Organization	Vote
John Beling, Chair	Deputy Commissioner, Massachusetts Department of Environmental Protection	
Rep. Christine Barber	Appointee for Rep. Michael Day, Massachusetts House of Representatives	
Senator Mike Barrett	Chair, Joint Committee on Telecommunications, Energy, and Utilities	
Sharon Byrne Kishida	Nominee, Senate Minority Leader	
Leigh-Anne Cole	Executive Director, Community Action Works	
Jose Delgado	Arise for Social Justice	
Janet Domenitz	Executive Director, MassPIRG	
Lew Dubuque	Vice President, Northeast Chapter, National Waste and Recycling Association	
Magda Garncarz	Vice President of Government Affairs, Associated Industries of Massachusetts	
Sarah Kalish	Executive Office of Economic Development	
Dalene LaPointe	Assistant Director, Environmental Toxicology Program at Massachusetts Department of Public Health	
David Melly	Legislative Director, Environmental League of Massachusetts	
Conor O'Shaughnessy	Budget Director and Environmental Policy Analyst, Office of Senator Bruce Tarr	
Andrew Potter	Chair, Select Board, Town of West Stockbridge	
Catherine Ratte	Director, Land Use and Environment Department, Pioneer Valley Planning Commission	
Bill Rennie	Senior Vice President, Retailers Association of Massachusetts	
Neil Rhein	Executive Director, Keep Massachusetts Beautiful	
Waneta Trabert	Vice President, MassRecycle	
Tracy Triplett	Senior Enforcement Counsel, Office of Attorney General Andrea Joy Campbell	
Abbie Webb	Vice President of Sustainability, Casella Waste Management	

[36] From a vote taken at a XXX, 2025, EPR Commission meeting.