Extended Battery Producer Responsibility Framework Roundtable

September 17-18, 2025

U.S. Environmental Protection Agency & U.S. Department of Energy

Welcome

Kim Cochran, U.S. EPA

Vision for an Extended Battery Producer Responsibility Framework

- A voluntary EPR framework that provides considerations to support design, implementation, and promote national consistency where needed
- Aimed at achieving national goals in recovering critical minerals and supporting states in battery collection and recycling
- The framework is consistent with current administration priorities and will address, at a minimum, the key elements specified in the IIJA:
  - Battery recycling goals
  - Reporting requirements
  - Cost structures for mandatory recycling
  - Product design
  - Collection models
  - Transportation of collected materials, including safely storing and handling

Roundtable Objectives

- Understand expert perspectives on the opportunities and challenges for including embedded batteries
- Gather individual participant perspectives and recommendations to inform the framework for
  - Definitions
  - Governance
  - Enforcement
  - Financing and cost structures, including eco-modulation
  - Collection models and transportation
  - Labeling
  - Alignment with other policy instruments

Introductions and Agenda Review

Pat Tallarico, Facilitator, ERG Support Team

Participant Introductions

- Please share:
  - Name
  - Title and organization
  - Area within the battery life cycle that you represent

General Considerations

- We are not seeking consensus - it's ok to disagree or offer alternatives
- We won't have all the answers
- Creative ideas are welcome
- We may ask you to wear a different hat
- Consider and remember online participants
- *Do not, in fact or appearance, discuss or exchange present or future price-related information*

Roles

Yours

- Participate honestly
- Be present
- Be curious
- Engage with others in mind
- Be solution oriented
- Be future focused

Ours

- Get you through the agenda efficiently
- Seek clarity
- Ensure people are heard
- Capture your ideas

Day 1 Agenda: Weds. Sept 17

- Welcome and Introductions
- Review EPR Elements and Scope
- Key Definitions and Distinctions
- Break
- Governance and Enforcement
- Wrap Up and Preview of Day 2

Day 2 Agenda: Thurs. Sept 18

- Welcome and Agenda Review
- Funding and Cost Structures
- Break
- Alignment with Other Policy Instruments
- Wrap Up and Next Steps

Overview of EPR Framework Elements

Elements for an EPR Framework

Focus of roundtable

- Definitions
- Alignment with other policy instruments
- Governance (Producer & Government Obligations)
- Collection models & transportation
- Enforcement
- Labeling
- Funding and cost structures
- Performance standards & goals
- Data collection & annual reporting
- Stewardship plan
- Fairness considerations
- Implementation timeline
- Education & outreach
- Environmental considerations

Definitions

Element Overview

- Establish a common understanding of key terms and concepts that support consistency across EPR program design and implementation.
- Typically set in the state law.
- In some cases, state regulations may determine ancillary definitions relevant to specific materials and products.

Considerations for Battery EPR

- Covered batteries & exclusions
- Obligated producer
- Independent collector

Governance

Element Overview

- Division of responsibilities among producers, state government, and others (e.g., advisory body, local governments, recyclers).

Considerations for Battery EPR

- Three main components of governance:
  - Obligations of PRO (representing producers)
  - Government obligations of the state oversight agency
- Multi-stakeholder advisory council (for some products)

Enforcement

Element Overview

- State EPR laws define state agency enforcement responsibilities to ensure participation and compliance from obligated producers and/or the PRO acting on their behalf.
- State EPR laws may include funding mechanisms for enforcement.

Considerations for Battery EPR

- State agencies commonly enforce battery EPR laws through compliance orders and administrative penalties.
- Enforcement approaches include:
  - Do not sell
  - Private right of action
  - Fines and other punitive damages

Funding and Cost Structures

Element Overview

- Refers to how program costs are covered and by whom.
- Typically based on internalized funding: producers are responsible for fully financing the end-of-life management of covered products.
- Producers may join PRO that establishes producer fees on covered products.
- PRO collects fees and manages the funds to cover the costs of:
  - Collection, transportation, and recycling
  - Public education and outreach campaigns
  - Data collection and reporting
  - State oversight and administrative costs

Considerations for Battery EPR

- Do current costs structures adequately cover EOL management? For example, reimbursement for collection costs, which may not always be included.
- Fee structures are based primarily on the cost of recycling and safe management rather than on environmental design criteria (e.g., eco-modulation).

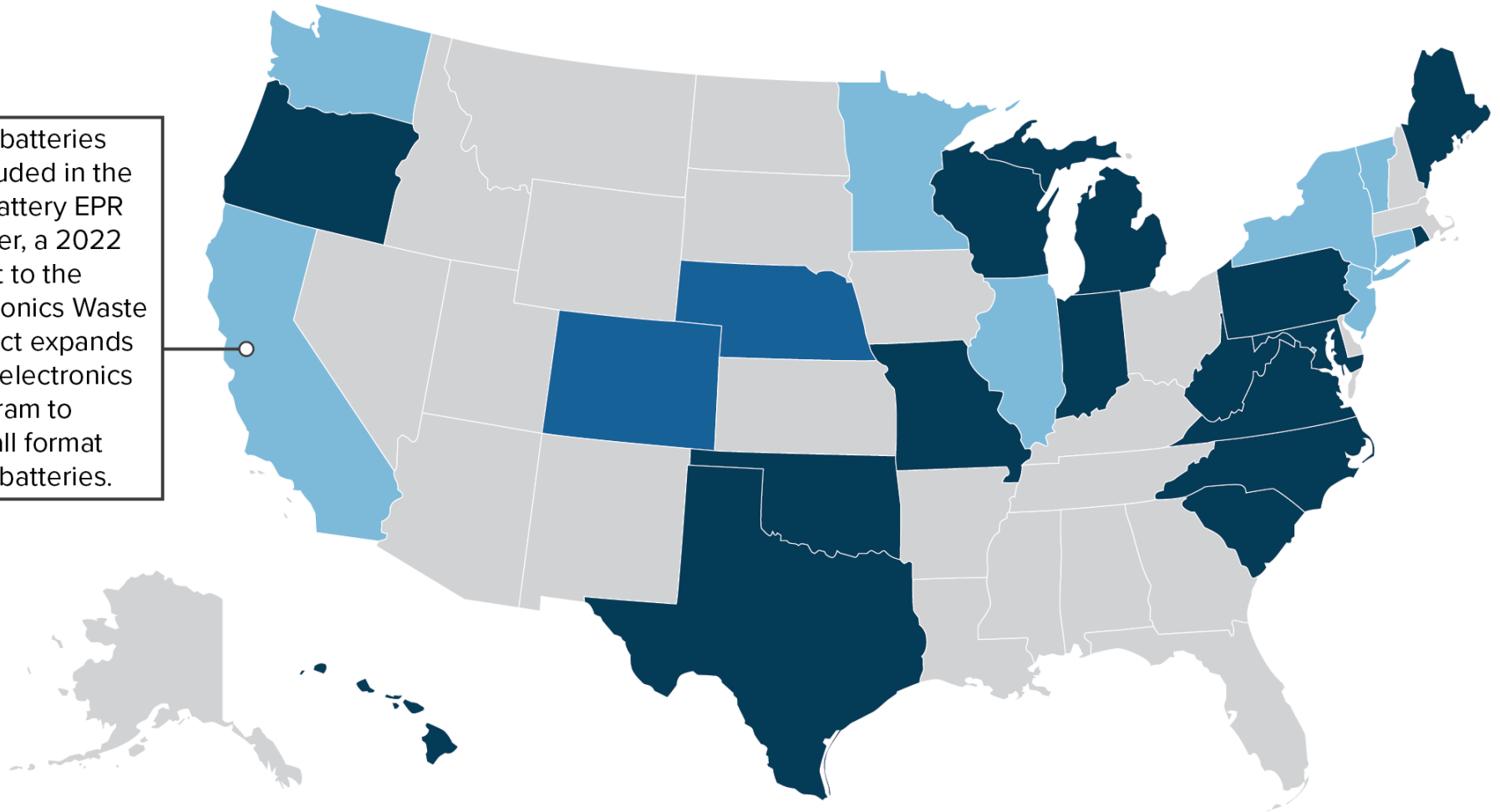
Additional EPR Elements

- Collection Models and Transportation
  - Independent Collector
  - Recalled batteries
- Labeling
- Alignment with Other Policy Instruments
  - Product design
  - Coordination with e-waste EPR and voluntary collection
  - Landfill bans

Scope and Definitions

U.S. Battery & Electronics EPR Laws

Embedded batteries are not included in the California battery EPR law. However, a 2022 amendment to the 2003 Electronics Waste Recycling Act expands California's electronics waste program to include small format embedded batteries.



Map Legend

- **8 states and D.C.** have **both battery and electronics** EPR laws
- **2 states** have **battery** EPR laws only
- **16 states** have **electronics** EPR laws only

General Scope of Batteries

Category	Small format consumer electric and portable batteries		Mid-format batteries	Large format batteries
Type	Single use (Primary)	Rechargeable (Secondary)	Rechargeable	Rechargeable
Use	Removable or embedded in electronics and electric devices, such as watches, hearing aids, cameras, key fobs, toys, portable radios, flashlights.	Removable or embedded in electronics and electric devices, such as phones, computers, appliances, small uninterruptable power supplies (UPS), power tools, power banks.	E-mobility including e-bikes, e-scooters. Outdoor power equipment. Portable power stations.	All scales of automotive starting and motive vehicle batteries. Materials handling equipment (forklift, crane, etc.) Recreational (golf carts, marine equipment, recreational vehicles, etc.)

Embedded Batteries in EPR Policies

- State laws handle embedded batteries in different ways (exclude, address elsewhere, prohibit)

State	Policy stance on embedded batteries
California	California's battery EPR law excludes embedded batteries. However, its e-waste law recently expanded to include embedded batteries.
Vermont Washington	While Vermont and Washington's battery EPR laws exclude embedded batteries, these states are conducting studies on embedded batteries.
Colorado, Connecticut, D.C., Illinois, Nebraska	Embedded batteries are not included in the state battery EPR law.
New Jersey	New Jersey's battery EPR law covers EV/hybrid batteries embedded in vehicles, not general electronics.
Minnesota	Products with embedded batteries are prohibited for sale.
New York	Rechargeable batteries contained in electronic products must be removed prior to disposal.

Products with Batteries

- **Battery-containing product**: product containing a battery that may be:
  - Designed to be **easily removed** from a product by the user of the product, with no more than common household tools
  - **Embedded into a product and** is not designed to be easily removed from the product by the user of the product with no more than commonly used household tools

Discussion Questions

- Are these definitions sufficient, or are there other terms that would be helpful to define to clarify what products with batteries are included in/excluded from policies?

Types of Products Containing Batteries

Products with loose or easily removeable batteries

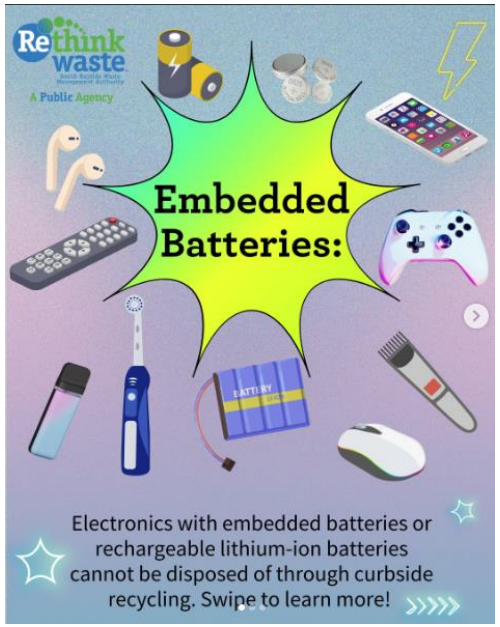
- Power tools
- Laptops

Source: Illinois EPA

Products with embedded batteries

Products that can more easily be recycled with e-waste such as phones, tablets, headphones, toothbrushes

Products that are more difficult to manage as e-waste such as shoes, clothing, toys



Source: @rethinkwasteorg

Source: Illinois EPA

Discussion Questions

- There appear to be three approaches for products with embedded batteries:
  - Exclude embedded batteries from Battery EPR laws but include products with embedded batteries in e-waste laws/streams
  - Exclude but be silent about how to handle these products
  - Prevent products with embedded batteries from coming to the market

- Should products with embedded batteries be included in the Battery EPR framework? Why/Why not? How should they be captured if not here?

Covered Battery

Small format		Mid-format	
Single use (Primary)	Rechargeable	Single use (Primary)	Rechargeable
Weighs 4.4 pounds (2 kilograms) or less, including alkaline, carbon-zinc, and lithium metal batteries	Weighs less than 11 pounds (5 kilograms) and has a Watt-hour rating of no more than 300 hours	Weighing more than 4.4 pounds but not more than 25 pounds	Weighing more than 11 pounds or has a rating of more than 300 watt-hours, or both, and no more than 25 pounds and has a rating of no more than 2,000 watt-hours

Discussion Questions

- Are either of these two definitions problematic? If so, how? What alternative definition would you recommend including in the framework?
- Are these definitions sufficiently "future proof?" If not, how would you change them?

Covered Battery Exclusions

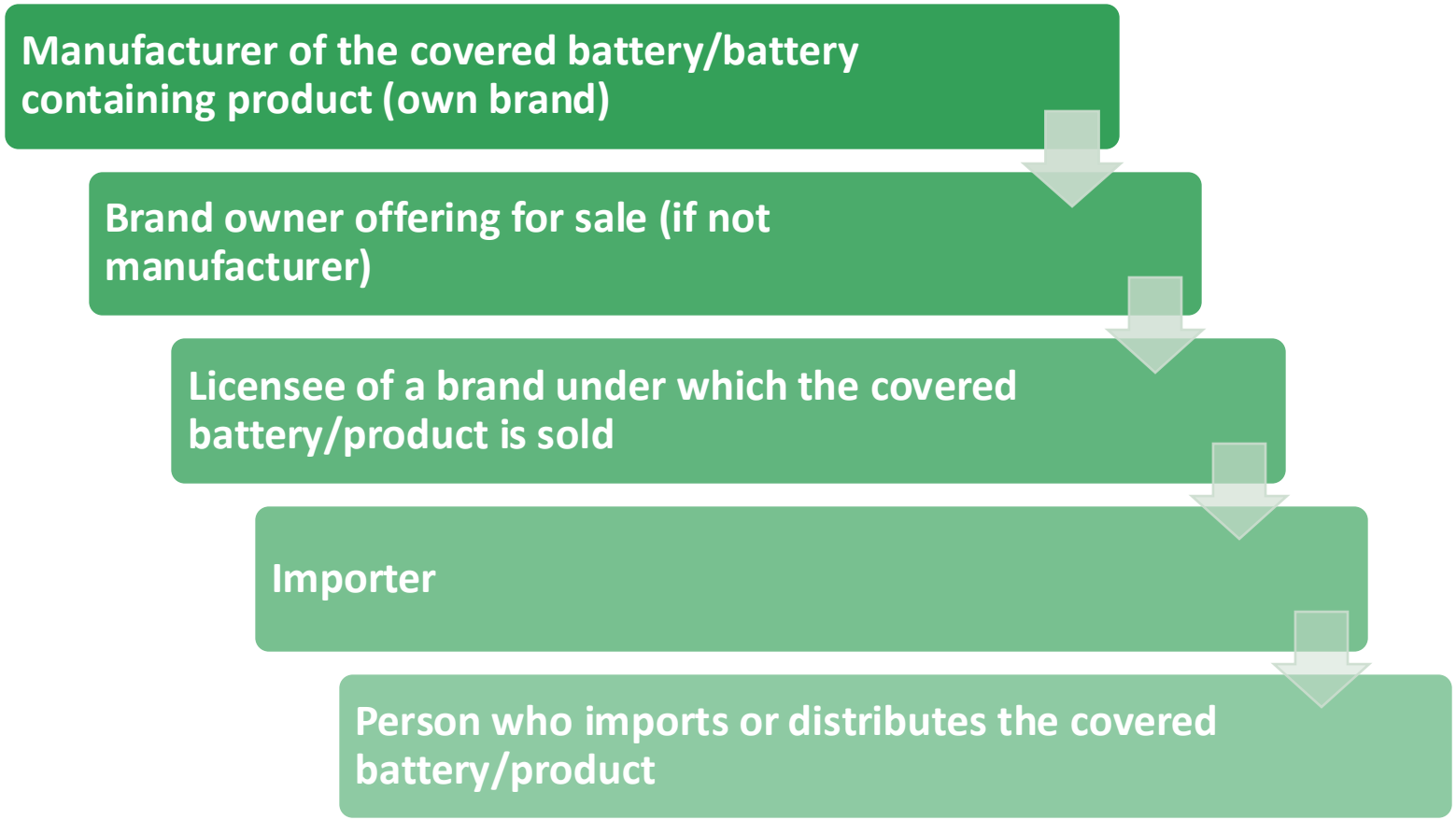
- Exclusions may include:
  - E-cigs/vapes
  - Medical devices
  - Lead
  - *De minimis*
  - *Damage, Defective or Recalled*

Discussion Questions

- Are there any other universal exclusions that should be included in the definition of a battery? Why? Where else might they be covered?
- Are there any current exclusions that are handled differently across states? If so, what and why are these differences problematic?
- Should a de minimis exclusion be included? Why or why not?
- How should states approach damaged, defective, and recalled batteries?

Obligated Producer

- **Washington's** small and mid-format battery EPR law has the most extensive waterfall definition:



Discussion Questions

- Does this definition of obligated producer seem sufficient for capturing the change in responsibilities across the battery life cycle?
- Does the definition address internet sales, private labels, overseas shipments?
- How would you change/improve it?

Independent Collector

- **Colorado's** law identifies requirements for collection of batteries independent of a battery stewardship program

Nothing…prevents or prohibits a person from offering or performing a fee-based, household collection, or a mail-back program for end-of-life portable batteries or medium-format batteries independently of a battery stewardship program provided that the person meets the following requirements:

a) *…services shall be performed, and the persons facilities shall be operated, in compliance with all applicable federal, state, and local laws and requirements, including all applicable federal…regulations;*

b) *…shall make available all batteries collected from the person's Colorado customers to a battery stewardship organization; and*

c) *After consolidation of portable or medium-format batteries at the person's facilities, the transport to and processing of the batteries by the battery stewardship organization's designated sorters or processors is at the battery stewardship organization's expense.*

Discussion Questions

- How might independent collection be consistently defined?
- Should the responsibilities of the independent collector be included in the definition or elsewhere in the framework? What should those responsibilities/requirements be? (e.g., collection rate, recycling efficiency, education, verified end markets, convenience)
- Should these collectors be required to have an Independent Program Plan or just meet the requirements?

Definition of Recycling

- 40 CFR Part 261.1 and 260.3
  - A material is recycled if it is used, reused, or reclaimed (i.e., processed to recover a usable product or regenerated) [40 CFR Part 261.1(c)(7)]
  - A material being recycled must be managed as a valuable product and must provide a valuable contribution to the recycling process or product and the recycling process must result in a valuable product or intermediate.

Definition of Recycling and Reuse

- 40 CFR 261.2 (e)
  - Used or reused as ingredients in an industrial process to make a product, provided the materials are not being reclaimed; or
  - Used or reused as effective substitutes for commercial products; or
  - Returned to the original process from which they are generated, without first being reclaimed or land disposed.
    - The material must be returned as a substitute for feedstock materials.
    - In cases where the original process to which the material is returned is a secondary process, the materials must be managed such that there is no placement on the land.

Definition of Recycling – State Examples

- CA, DC, IL, NE, VT, WA define recycling with exclusions for combustion, incineration, fuel production, beneficial reuse in the construction and operation of a solid waste landfill, including use of alternative daily cover
- IL definition of "recycling" means recycling, reclamation, or reuse as defined in Environmental Protection Act
  - No clear definition of "reuse" in battery context in the Act
- NE excludes reuse from the definition:
  - *Recycling does not include:*
    - *(i) Destruction by incineration or other processes; (ii) Land disposal of recyclable materials; and (iii) Reuse, repair, or any other process through which batteries are returned in their original form*

Discussion Questions

- What are the specific elements of the definition of recycling that people are concerned about being consistent?
- Does a process have to meet a certain recycling efficiency to be considered “recycled?”
- What "second life" definitions should be included? Why is that important? Does the EPA definition of reuse address this need?

Summary of Definitions in the Framework

- The following definitions are being considered for the framework:
  - Covered batteries and battery-containing products
  - Exclusions
  - Obligated producer
  - Independent collector
  - Recycling

Discussion Questions

- Are there any missing? Are there any that should not be included?
- What other definitions are important to discuss or need to be consistently defined across states?
- What about the differences across states is problematic?

15-Minute Break

Wrap-Up and Preview of Day 2

Pat Tallarico, Facilitator, ERG Support Team

Welcome and Agenda Review

Pat Tallarico, Facilitator, ERG Support Team

EPA

Summarizing Day 1 Outcomes

- Continue conversation on products with batteries
  - Consider what is “easily removable” with “household tools” - methods that don't damage the battery
  - Consider how these products with batteries are processed and the current/future end of life infrastructure for the products
  - Products may contain both embedded and easily removable batteries
  - Consider phased approach for addressing products with embedded batteries
  - Awaiting results of study

Summarizing Day 1 Outcomes

- Covered battery definitions and exclusions to consider in framework
  - Confirmed small and mid-format definitions
  - Small- and mid-format policies need to reflect differing requirements
  - Account for the multiple batteries in products (in battery or electronic programs)
  - States should consider excluding batteries/products that may be dealt with elsewhere and/or things that have other contaminants, but not a clear, consistent set of exclusions
  - Damaged and defective should be collected as part of the program, recalled may be handled inside and outside the program as long as manufacturer pays costs

Summarizing Day 1 Outcomes

- Offer tiers for obligated producer, not a full definition in the framework
- Need to figure out appropriate language to address role of independent collector and ensure that they report collection to state, follow environmental requirements, and collect all battery types in the program
- Consider how policies may apply to consumers and businesses

Day 2 Agenda

- Welcome and Agenda Review
- Governance and Enforcement
- Funding and Cost Structure
- Break
- Alignment with Other Policy Instruments
- Wrap Up and Next Steps

Governance & Enforcement

Typical Governance Roles and Responsibilities

Role	Responsibility
PRO/Producers	Implementation/collection
State	Oversight, enforcement
Advisory Council or Body	Assess/set program direction with the PRO
Independent Collector	Collection and reporting

Discussion Questions

- Is there anyone missing from the governance structure?
  - Should governance include an Advisory Council? If so, who should comprise that body?
  - Should Independent Collector be part of the "governance"?
- Do the responsibilities seem accurate? If not, how would you change them?

Governance – Additional Discussion Questions

- What are the pros and cons of having more than one PRO?
- Should the PRO be a non-profit organization? If not, why not?
- What recommendations do you have about the composition of the PRO governing body – should it include just producers or others as well?

Compliance and Enforcement Approaches - Producers

Practice	Justification
Do Not Sell	Some states use "do not sell" provisions as a penalty for producers that do not participate in an approved battery EPR program. The penalty stops non-participating producers from selling their products in a jurisdiction. This prohibition is often extended to retailers and other parties, banning them from selling the brands of the non-participating producers. Most states include this provision in their EPR laws.
Private Right of Action	State EPR laws could include provisions that allow a PRO to recover costs of collecting and recycling non-participants' products. One option is to give the affected PRO a "private right of action," in which the PRO has legal standing to pursue a civil case against a non-participating producer to recover costs incurred.
Fines and Other Punitive Damages	The state may reserve the right to impose additional fines, often a dollar amount per day of noncompliance, on repeat or persistent offenders. This may also apply to retailers that continue to sell brands from non-participating producers.

Discussion Questions

- Are there other ways to encourage compliance or to dole out enforcement for producers?

- How should states and the PRO work together to implement enforcement activities fairly and efficiently? Are there roles for others such as retailers? (e.g., who tells the producer to stop selling?)

- What are participants' perspectives (especially states) on allowing for private right of action?

Discussion Questions

- What is the best way to ensure that enforcement activities are funded?

- How should enforcement funds be used? Examples from packaging EPR include:
  - Oregon's Plastic Pollution and Recycling Modernization Act includes a waste prevention and reuse fee collected by the OR Department of Environmental Quality from the PRO. The fees may provide grants or loans to public entities, Tribal government, non-profits, and private organizations to reduce environmental impacts of covered products.

Discussion Questions

- What are the best incentives to get collection points – especially retailers – to participate or to comply with state requirements?

Discussion Questions

- What are the best mechanisms to ensure the performance of the PRO?

- What is the best role for an Advisory Council in ensuring the PRO is meeting its obligations?

Funding and Cost Structures

Funding and Cost Structures

- Internalized funding: producers must fully finance the EOL management of covered batteries.
- Producers typically join a PRO that assesses program costs and establishes producer fees on covered products.
- PROs manage the funds to cover:
  - Collection, transportation, and recycling
  - Public education and outreach campaigns
  - Data collection and reporting
  - State oversight and administrative costs
- States may also add fees if they determine the PRO fees are not sufficient (not common).
- Challenge: some entities take on collection responsibilities without compensation.

Discussion Questions

- Beyond including an example of how fees are typically calculated/what they should cover, is there anything else about how fees are calculated or charged that should be addressed in the framework? Anything missing?
- Should funds be provided to municipalities and others in the collection network to reimburse the cost of collection activities? If so, what might that look like?
- Is allowing states to add fees counter to a consistent approach?

Cost Factors

- Modulate fees based on product attributes to encourage producers to design more products that are easier to recycle.
- Not typically used for batteries in the U.S.
- Challenges:
  - No widely recognized method for assessing the environmental impact of batteries.
  - Measuring the impact of batteries is particularly complex due to their extensive supply chains and dynamic nature of the marketplace.

Discussion Questions

- Should costs be different for different types of batteries/products? If so, how would these rates be determined?
- What can be incentivized/eco-modulated for batteries and battery-containing products?
- What, if any, other policy options exist for influencing product design?

15-Minute Break

Additional EPR Elements

Labeling

- Numerous requirements and voluntary standards for battery labeling.
- Recent battery EPR laws (e.g., WA, IL) require that batteries sold within the state identify the battery chemistry on the label and include symbols signaling that consumers should not dispose of the batteries as household waste.
- States creating labeling requirements on a state basis may create compliance patchwork.

Discussion Questions

- Should states include labeling requirements in battery EPR?
- How should labeling be included in a consistent manner?
- How could EPA's voluntary guidelines help promote consistency among state EPR labeling requirements?

Recalled Batteries

- State EPR laws may exclude recalled batteries.
- Manufacturers typically responsible for management of recalled batteries, however recall protocols may lead to unsafe collection and transportation

Discussion Questions

- Should states be more explicit about how manufacturers should handle recalls (not just whether)? If so, what would that look like?

Measuring Goals

- Feedback received during previous roundtables:
  - It is important for consistent collection goals ACROSS all states.
  - Inconsistent collection targets can create price distortion.
  - Methodology guidance and/or criteria could be helpful.

Discussion Questions

- Should measures be consistent across states? If so, which ones and why?
- What performance measures are best for tracking program success?
- What additional information or materials would best help states and PROs in tracking and reporting on performance measures? What do we mean by methodology?

Alignment with Other Policies

- How might battery EPR policies better relate to electronics EPR policies? Even if EPR laws are separate for batteries and electronics (including embedded batteries), how might the programs work together to address safety concerns and improve recycling?

- Are there any gaps that exist to ensure that all electronics are captured in EPR programs?

- Are there other policies that need to be aligned with battery EPR policies? (e.g., disposal bans, etc.)

Additional Suggestions

- What types of resources would be helpful for ensuring that the framework is implemented?

Wrap-Up and Next Steps

Summarizing Day 2 Outcomes

- Performance measures and reporting
  - Focus on convenience, accessibility, awareness.
  - Consider safety measures (e.g., reduced fires)
- Labeling
  - Alternate views at state level.
  - Adopting lithium in federal labeling requirements through Battery Act
- Recalled
  - Currently put onto HHW sites/local governments
  - Consider collecting through PRO and PRO recoups fee from the recalled manufacturer

Summarizing Day 2 Outcomes

- Alignment with other policy instruments
  - Coordination across other EPR laws and collection sites, like the "depots" where consumers can drop off multiple materials
  - Disposal bans are challenging to enforce
  - Coordinate with state universal and hazardous waste laws
- Cost structures
  - States not interested in setting fees as this is between PRO and producer
  - Modulated fees challenging to calculate

What's Next? – Rollout Timeline

Winter 2025: Web-based battery collection best practices toolkit, including state EPR case studies

- Case studies highlighting Vermont, California, and Illinois battery EPR program development and implementation

Summer 2026: EPR Framework

- High-level framework outlining key EPR elements
- Additional best practices/case studies for developing and implementing battery EPR