

Packaging Extended Producer Responsibility Advisory Board

Wednesday, December 17, 2025

Start 1 p.m.-End 4 p.m.

[MS Teams](#) | Phone conference ID: 799 997 16# | Call in (audio only) +1 651-395-7448

Meeting Location: Room 100, MPCA St Paul Offices, 520 Lafayette Rd N., St. Paul, MN 55155

If attending in person, RSVP to packaging.mPCA@state.mn.us by noon on Friday, December 12

Attendees:

| Time | Topic | Speaker | Type | Page |
|-----------|--|-------------------------|-------------|------|
| 1 p.m. | Call to order Meeting logistics Welcome and roll call / attendance Meeting outcomes Approve agenda Approve November meeting summary | Chair Reinhardt | Action | 2 |
| 1:10 p.m. | Updates from MPCA 2026 Meeting topics planner Scope of Needs Assessment Updates from CAA | MPCA CAA | Information | 5 |
| 1:20 p.m. | Board Discussion: draft Preliminary Assessment | Vice Chair Holsinger | Discussion | 10 |
| 3:50 p.m. | Public comment | Chair Reinhardt | | |
| 4 p.m. | Adjourn | | | |

Packaging EPR Advisory Board

Meeting Summary

Virtual via Microsoft Teams or in-person at the MPCA St. Paul Office | 3 hours

Wednesday, December 3, 2025 | Start 1 p.m. - End 4 p.m. CT

Recording available at: <https://www.pca.state.mn.us/events-and-meetings/packaging-extended-producer-responsibility-advisory-board-meeting-2025-12-03>

Attendance

Board Member Attendance

| Present (7 members required for quorum) | | | Absent |
|---|-------------------------------|------------------|--------|
| Gabbie Batzko-Conley | Miriam Holsinger (Vice Chair) | Maggie Schuppert | |
| Sara Bixby | Bill Keegan | Mac Sellars | |
| Megan Daum | Kirk Koudelka | Jon Steiner | |
| Kate Davenport | Gregory Melkonian | Steve Vrchota | |
| Mike Griffin | Shoshana Micon | | |
| Sydney Harris | Victoria Reinhardt (Chair) | | |

Gabbie Batzko-Conley joined the meeting at 1:30 p.m.

Guest Presenters: Kris Coperine, CAA; Sarah Edwards, Eunomia; Kaitlin Reese, Eunomia; Angie Lemar, Foth

Agency Staff: Dave Benke, Colleen Hetzel, Mallory Anderson, John Gilkeson, Quinn Carr, Molly Flynn

Participants: Addison Tansom, Alex Torres, Alexander Truelove, Anna Walsh (TMNA), Annebelle Klein, Apurupa Gorthi, Ashley Elzinga, Bridget Anderson, Callie Lehman, Darla Arians, Dan Donkers, Garth Hickie, Geralyn Lasher, Gretchen Spear, Joshua Hauf (MPCA), Janell Schroeder, Justin Emmerich, Kala Fisher, Nathan O Klett, Tony Kwilas, Lori Olinger, Lucy Mullany, Marissa Heffernan, Brian Martinson, Matt Chmielewski, Scott Moening, Paul Marvin, Peter Hargreave, Steven Day (Day Steven), Susan Bush, Taylor Loeber, Tim Wilkin, Chris Wandmacher

Meeting notes

Call to order

Mallory Anderson conducted a roll call vote.

Bixby, Daum, Davenport, Griffin, Harris, Holsinger, Keegan, Melkonian, Micon, Reinhardt, Schuppert, Sellars, Steiner, Vrchota

Absent: Batzko-Conley

Approval of agenda

Kate Davenport motioned and Miriam Holsinger seconded. Mallory Anderson conducted a roll call vote.

Bixby, Daum, Davenport, Griffin, Harris, Holsinger, Keegan, Melkonian, Micon, Reinhardt, Schuppert, Sellars, Steiner, Vrchota

Absent: Batzko-Conley

Approval of November 2025 Meeting Summary

Miriam Holsinger motioned and Jon Steiner seconded. Mallory Anderson conducted a roll call vote.

Bixby, Daum, Davenport, Griffin, Harris, Holsinger, Keegan, Melkonian, Micon, Reinhardt, Schuppert, Sellars, Steiner, Vrchota

Absent: Batzko-Conley

Agency updates

Presented by Mallory Anderson, MPCA staff

Draft Preliminary Assessment is posted for public comment. In-process of filling two vacant board seats.

CAA updates

Presented by Kris Coperine, CAA staff

No major updates. Kris will do a facility tour this spring.

Outreach and Engagement Plan for the Needs Assessment

Presented by Kaitlin Reese, Eunomia; Angie Lemar, Foth

MPCA will lead the review of the scope and draft surveys this winter. Eunomia and its consulting team will complete primary research for the needs assessment using three core surveys with the following audiences: municipalities and counties, facilities, and haulers. There will be a series of additional engagement planned on key topics throughout the process. A public comment period will be hosted for the draft Needs Assessment in fall 2026 with four meetings planned.

Interested parties who would like to meet on the scope and or provide input on the draft surveys should reach out to packaging.mpca@state.mn.us to set up a time.

The final outreach and engagement plan should have a section on how the reuse sector will be engaged and how tribes will be engaged.

Board Discussion: draft Preliminary Assessment

Facilitated by Miriam Holsinger

A discussion on the draft comments compiled by the review committee resulted in agreement that the report was insufficient and that there were two main paths forward: (1) expecting the report to be done to a high quality with the limited scope and set of data or (2) wait until a report can be completed that would be based on a robust data set. Members are split between these two paths, but ultimately it was agreed to request that the MPCA and the consulting team led by Eunomia take an additional two weeks to improve the report to the highest standard possible and that the review committee should identify the key areas of the report that introduce the most risk if published. There was significant discussion over what is “insufficient data”, which will be the task of the review committee to define and recommend to the Board at the next meeting for discussion.

Recognizing the scope of revisions needed to the draft report, the Packaging EPR Advisory Board voted to recommend extending the report timeline for a deadline of February 2, 2026 in order to provide an additional two weeks for completion of the final report.

Miriam Holsinger motioned, and Jon Steiner seconded. Mallory Anderson conducted a roll call vote.

Discussion: it was agreed to that this vote to extend the timeline was not a signal that there was support of the draft report as written.

Batzko-Conley, Daum, Davenport, Griffin, Harris, Holsinger, Keegan, Melkonian, Micon, Reinhardt, Schuppert, Sellars, Steiner, Vrchota

No: Bixby

Absent: None

Public comment

Peter Hargreave, CAA. CAA has done a deep dive into the report and found similar concerns as the Board on the content. There are several areas where better alignment between the report and the legislative language needs to be completed. There is a need to explain the methodology so the reader can follow the logic. Accept that these reports are iterative, and that data can change a lot in these reports, like costs.

Notes compiled by: Mallory Anderson

[Minnesota's Packaging Extended Producer Responsibility Advisory Board](#)

DRAFT 2026 Agendas

Packaging EPR Advisory Board

Meetings are every third Wednesday of the month from 1-4pm. Held both in-person at MPCA's St Paul office and with a virtual option using Teams. Meetings are three hours with a 15-minute break. All meetings include implementation updates from the MPCA and CAA. Meetings include a 10-minute public comment period, limiting to 2 minutes per speaker.

Board Members are asked to notify packaging.mPCA@state.mn if they are unable to attend a meeting.

| Date | Topic | Speakers |
|---|--|-------------------|
| Wednesday, January 21st 1-4 pm | Consultation on scope of needs assessment. Eunomia to go over the key requirements of the Needs Assessment and identify how each requirement will be completed, including data collection plans. | Eunomia & Foth |
| Wednesday, February 18th 1-4 pm | <p>How to measure recycling. An overview of definitions and requirements in the law around how to set a recycling rate, composting rate, and measurement criteria for both. The Needs Assessment must set a baseline for these rates as well as proposed methods of measurement for the future program.</p> <p>Review of the major impacts and types of contamination in the recycling stream and organics stream. The [to be] recently completed Resource Management Report and a 2023 MRF survey completed by REC include questions around contamination. In addition, recycling at apartments and condos as well as public space or "to go" recycling are also known with having high contamination rates. The Needs Assessment is required to review the major sources of contamination and the costs to service providers of contamination.</p> | |
| Wednesday, March 18th 1-4 pm | <p>Status and examples of refill and reuse programs. A discussion of opportunities and challenges for establishing systems of reuse, where refill fits in, and a vision for the future. The Needs Assessment must propose future investments to establish systems of reuse.</p> <p>How to measure refill and reuse. An overview of definitions and requirements in the law around how to set a reuse rate, return rate, and measurement criteria for both. The Needs Assessment must set a baseline for these rates as well as proposed methods of measurement for the future program.</p> | Upstream & rWorld |
| Wednesday, April 15th 1-4 pm | <p>Postconsumer recycled content (PCR). The Needs Assessment will include a review of PCR currently in packaging and paper products by material type as well as potential technological limits to PCR use based on existing practices and technologies.</p> <p>Responsible markets. The Needs Assessment will evaluate existing markets for covered materials and if they can be considered a responsible market per the state definition. This conversation will also include a discussion of this issue in other states and how to best navigate this important issue in MN.</p> | |

| | | |
|---|--|----------------|
| | Update on third-party certifications. Update on status of third-party certifications in development or developed to verify activities related to this program, with a focus on responsible markets and postconsumer recycled content. | |
| Wednesday, May 20th 1-4 pm | Awareness, education, and behavior change around waste reduction, reuse, recycling and composting. Discuss both opportunities and challenges around education and behavior change. Opportunities: what we've tried and what we know works. Challenges: what has worked less effectively and where are gaps in knowledge. What are best practices in developing culturally responsive education. | |
| TBD | Review scoring of covered materials types. Discuss the analysis of covered materials types by the criteria set out in law. | |
| Wednesday, June 17th 1-4pm | Review reimbursement criteria. Discussion of status of proposed methodology for setting reimbursement rates. | Eunomia & Foth |
| Wednesday, July 15th 1-4pm | Environmental health and public health considerations. The Packaging Waste and Cost Reduction Act requires that a review of the environmental impacts of introduced covered materials is completed as part of the Needs Assessment along with recommending statewide requirements that consider the goals of the Waste Management Act and climate goals. Overview of toxics in packaging. The Needs Assessment will include a review of known toxics intentionally added to covered materials, the impact of those additions to the ability to reuse, recycle, or compost covered materials, and best practices to reduce or eliminate their use. | |
| Wednesday, August 19th 1-4pm | | |
| Wednesday, September 16th 1-4pm | Presentation and discussion of needs assessment (due 12/31) by Eunomia and Foth. | Eunomia & Foth |
| Wednesday, October 21st 1-4pm | Working session: comments and feedback on Needs Assessment | |
| TBD – before public comment closes (11/13) | Approval of final comments | |
| Wednesday, November 18th 1-4pm | | |
| Wednesday, December 16th 1-4pm | Eco-modulation of fees, best practices Eco-modulation of fees, considerations Confirm dates for 2027 and set agendas | |

Scope of Needs Assessment

Please refer to Minn. Stat. § 115A.1450 for the requirements of the Needs Assessment. This document is for discussion purposes only.

Baseline, targets, and standards

- What are the collection rates, recycling rates, composting rates, reuse rate and return rate, of covered materials by covered materials type (as applicable) and by all covered materials?
- What is the extent to which postconsumer recycled content (PCR) is or could be included into each covered materials type? What are market and technical barriers to incorporating PCR into covered materials?
- How are covered materials managed today (using 2024 data, over a one-year-span of time)?
 - How many tons are going into waste-to-energy facilities and landfills, how much is captured for recycling and composting? This should be modeled using waste composition studies completed by both waste-to-energy facilities, voluntarily completed by municipalities and other units of government, or based on other state's and adjusted for MN.
- What is the current infrastructure, capacity and performance of that infrastructure to manage covered materials generated within the state?
 - What are the major causes and types of contamination?
 - What are the costs to manage that contamination at facilities?
- What are current funding sources and funding levels of this existing system?
- What are estimated total annual costs of all covered services?
- Identification of disparities in the availability of these covered services in environmental justice areas compared with other areas and proposals for reducing or eliminating those disparities.
- An assessment of the viability and robustness of markets for recyclable covered materials and the degree to which these markets can be considered responsible markets.

Statewide requirements and performance targets

Proposals for a range of outcomes:

For ***each covered materials type*** and ***all covered materials*** to be accomplished within a five-year time frame in multiple units of measurement, including unit-based, weight-based, and volume-based, for each of the following:

- waste reduction;
- reuse rate and return rates;
- recycling rates;
- composting rates; and
- postconsumer recycled content, as applicable.

Outcomes must consider the state of the existing systems documented in this report, goals and requirements of the Waste Management Act, statewide goals for greenhouse gas reduction, a need for continuous improvement, that advance these other goals as quickly as possible and to the maximum amount possible, and as informed by programs in other states.

Proposed metrics for measurement

Proposed plans and metrics for how to measure progress in achieving performance targets (set by CAA in program plan) and statewide requirements (set by Commissioner of MPCA). Including an evaluation of options for third-party certification of activities to meet obligations of this law.

Collection lists and modes of collection

Identification of the covered materials with the most significant environmental impact, including assessing each covered material's generation of hazardous waste, generation of greenhouse gases, environmental justice impacts, public health impacts, and other impacts.

Evaluation of covered materials types to be placed on a recyclables, compostables, or alternative collection list by the criteria listed below.

- Current availability of recycling and composting collection services.
- Recycling and composting processing infrastructure.
- Capacity and technology for sorting covered materials.
- Whether a covered material is of a type and form that is regularly sorted and aggregated into defined streams for recycling processes or is included in a relevant Institute of Scrap Recycling Industries specification or its successors.
- Availability of responsible markets.
- Presence and amount of processing residuals, contamination, and toxic substances.
- Quantity of covered material estimated to be available and recoverable.
- Projected future conditions for these criteria in clauses.

Recommended collection methods by covered materials type to maximize collection efficiency, feedstock quality, and optimize service and convenience. This includes a review of criteria for alternative collection programs.

Future scenario

Evaluation of investments needed to increase waste reduction, reuse, recycling, and composting rates of covered materials according to the range of proposed performance targets and statewide requirements, including investments in existing and new infrastructure.

- Investments needed to maintain or improve operations of existing infrastructure and accounts for waste reduction, reuse, recycling, and composting of covered materials statewide.
- Investments needed to expand the availability and accessibility of recycling collection services for recyclable covered materials to all covered entities to optimize service and convenience.
- Investments needed to establish and expand the availability and accessibility of reuse services for reusable covered materials.

Reimbursement rates

Recommended methodology for applying criteria and formulas to establish reimbursement rates according to the criteria set in law.

- The cost to collect covered material for recycling, a proportional share of composting, or reuse adjusted to reflect conditions that affect those costs, varied by region or jurisdiction in which the covered services are provided, including but not limited to:
 - the number and type of covered entities;
 - population density;
 - collections methods employed;

- Distance traveled by collection vehicles to consolidation or transfer facilities; to reuse, recycling, or composting facilities; and to responsible markets;
- Other factors that may contribute to regional or jurisdictional cost differences;
- The proportion of covered compostable materials within all source-separated compostable materials collected or managed through composting; and
- The general quality of covered materials collected by service providers.
- The cost to transfer collected covered materials from consolidation or transfer facilities to reuse, processing, recycling, or composting facilities or to responsible markets.
- The cost to:
 - Sort and process covered materials for sale or use and remove contamination from covered materials by a recycling or composting facility, less the average fair market value for that covered material based on market indices for the region; and
 - Manage contamination removed from collected covered material.
- Administrative costs of service providers, including education, public awareness campaigns, and outreach program costs as applicable.
- The costs of covered services for a refill system or covered services provided for reusable covered materials and management of contamination.

Awareness, education, and behavior change

An assessment of current best practices to increase public awareness, educate, and complete outreach activities accounting for culturally responsive materials and methods and an evaluation of the efficacy of these efforts, including assessments and evaluations of current best practices.

- Impact of using product or packaging labels as a means of informing consumers about environmentally sound use and management of covered materials.
- Increasing public awareness of how to use and manage covered materials in an environmentally sound manner.
- How to access waste reduction, reuse, recycling, and composting services.
- Encouraging behavior change to increase participation in waste reduction, reuse, recycling, and composting programs.

Evaluation of toxic substances used

An assessment of toxic substances intentionally added to covered materials, whether this limits one or more covered materials types from being used as a marketable feedstock, and best practices producers can implement to reduce intentionally added toxic substances in covered materials that could be verified through suppliers certificates of compliance, testing, or other analytical and scientifically demonstrated methodology.

December 9, 2025

Commissioner Kessler

Minnesota Pollution Control Agency

Re: Preliminary Assessment – MN EPR for Packaging & Paper

Dear Commissioner Kessler:

The Packaging Extended Producer Responsibility Advisory Board is deeply concerned by the quality, accuracy, and completeness of the Preliminary Needs Assessment. While we recognize the limited timeframe for completing this assessment, the publicly issued draft contains substantial inaccuracies and unclear methodology that could mislead Minnesotans and other stakeholders working towards implementing EPR.

Developing an assessment of this importance requires adequate time to design appropriate questions, conduct interviews, and complete the necessary research to accurately capture the complexities, true costs, and capacities of the systems currently managing covered materials in Minnesota. To meet the level of quality this report requires, stakeholders participating in interviews and surveys must have confidence that any business-confidential information they provide will remain confidential. It is critical that sufficient time and effort be dedicated to verifying that the information included in the Preliminary Assessment is accurate, complete, is managed correctly, and that the resulting document clearly communicates that information to its intended diverse audience.

The Preliminary Assessment is a critical step in the process of implementing the Packaging Waste and Cost Reduction Act. In reviewing this report, we identified data gaps and misinformation in every single one of the eleven requirements set by the state legislature. These issues led to confusion, unanswered questions, and skepticism about the Preliminary Assessment as a whole. We strongly recommend that the project timeline be adjusted, at least until February 2, to provide more time to complete this report with accurate data, to develop well-documented, Minnesota specific, projections in areas where reliable data does not exist, and to leave out the data completely if it cannot be verified and represent the whole state in all its diversity.

As there is likely not time to fully complete the Preliminary Assessment, the Advisory Board identified seven of the legislative requirements with partial or unverified data that, if not corrected, would be too misleading to leave in the report. If the representative and comprehensive data cannot be obtained, we recommend leaving the information out and instead addressing what will be done to obtain the information needed to fully and accurately address the requirement in the Needs Assessment expected to be completed in 2026.

Legislative Requirement #2: Tons of collected covered materials

For Requirement #2, any data included in the Preliminary Needs Assessment must be fully sourced, transparent, and grounded in Minnesota conditions. The report should clearly cite all data sources and explain how calculations were performed so that stakeholders can understand and trust the methodology. Assumptions drawn from other states must be validated or calibrated using Minnesota-specific information—for example, per-capita municipal solid waste and recycling comparisons and findings from the recent Minneapolis capture rate study. If these steps cannot be completed, the Advisory Board recommends omitting data from this section to avoid presenting figures that could be inaccurate or misleading. Withdrawn data should be accurately completed and addressed in the Full Needs Assessment.

Legislative Requirement # 3: Characteristics of recycling and composting programs

For Requirement #3, the Preliminary Needs Assessment must present a complete and accurate picture of recycling and composting programs across the state. This requires filling data gaps—beginning with obtaining information from the three counties missing from the detailed SCORE survey—so the full state is represented.

The report must clearly describe the prevalence of single-stream and dual-stream recycling programs and provide a statewide map that includes source citations. It should also clarify whether Tables 8 and 9 exclude residents who live outside city boundaries and, if so, explain how those households are counted. In areas that rely primarily on drop-off rather than curbside service, the assessment should characterize convenience and accessibility, including travel distance, operating hours, and materials accepted.

The report should more specifically identify how many composting facilities do not accept compostable packaging due to contamination or other concerns. Otherwise, as currently written, it risks giving the potentially mistaken impression that compostable packaging is widely accepted in the current system.

The report must also present accurate information on the average frequency of recycling and composting collection, including percentages of cities that have monthly, weekly, bi-weekly, subscription-based, or drop-off only recycling, as well as weighting each frequency by population served. A similar, but separate analysis should be completed for organics collection.

Finally, the assessment should describe the types of collection containers used across the state and associated costs by covered material type. This includes documenting the prevalence of each system by population served, participation levels and typical volumes collected by container size, and the impacts different collection methods have on contamination and cost. If these elements cannot be fully and accurately completed, the Advisory Board recommends omitting this section to prevent the distribution of inaccurate or misleading conclusions. Address the gaps in the Full Needs Assessment.

Legislative Requirement #4: Processing capacity at recycling facility

For Requirement #4, any data included on recycling facility processing capacity must be thoroughly verified before it is released. Information on total tons and the composition of recyclables processed and sold should only be included if the underlying composition data is fully cited and confirmed by Agency staff as accurate and complete. In addition, Recycling Managers and other regional stakeholders should be contacted to verify that the data accurately reflects conditions within their counties. While not essential, it would also be helpful for the report to identify the quantity of recyclables processed outside Minnesota and to note when in-state facilities are processing tons originating from neighboring states. Data on facility processing fees should be informed by a full review of all contracts in the state, with specific notation of contracts that are not indexed to the Consumer Price Index (CPI). All processors should be interviewed, and any information or data they provide must be kept confidential and anonymized. The report must also clearly explain how cities are charged in circumstances where no processing fee exists and how those gaps are accounted for in total cost estimates.

Legislative Requirement #8: Average length and term of residential recycling and composting collection contracts issued by a political subdivision

For Requirement #8, the Preliminary Needs Assessment should only include information on the average length, terms and cost structures of residential recycling and composting collection contracts after all contracts across the state have been thoroughly reviewed. This review must identify which contracts are tied to CPI and which are not, and these distinctions should be clearly documented in the report.

Legislative Requirement #9: Estimate of total annual collection and processing service costs based on registered service provider costs

For Requirement #9, any estimates of total annual collection and processing service costs must be grounded in a representative and confidential dataset. Before including data in this section, interviews should be completed with a representative sample of service providers. These interviews must ensure confidentiality and anonymization of provider information and should include providers across key categories: geographic region; community density, including urban, suburban, and rural areas; and collection type, such as weekly versus every-other-week service and rear-load versus side-load equipment. Without this comprehensive and representative input, cost estimates risk being inaccurate or misleading, and therefore must be deferred to the Full Needs Assessment.

Legislative Requirement #10: Available markets in the state for covered materials and the capacity of those markets

For Requirement #10, information on available in-state markets and their capacity to accept covered materials should only be included once all end markets have been directly contacted and verified. Interviews with each market must confirm that the facility is currently operating or accepting materials from within Minnesota, that it accepts covered materials as part of its feedstock, and their capacity to manage those materials. Without completing this verification, any description of available markets or market capacity may be inaccurate or outdated and therefore should be omitted until the Preliminary Assessment.

Additionally, more thorough explanation of the US EPA recycling infrastructure and markets opportunity map is needed. This is especially important to distinguish the large discrepancy between the number of sites on the map and the number of end markets MPCA identified.

Legislative Requirement #11: Covered material sales by volume, weight and covered material types introduced by producers

For Requirement #11, any data on the volume, weight, or types of covered materials introduced by producers must be fully transparent, clearly sourced, and grounded in Minnesota-specific conditions. The report should cite all data sources and explicitly describe the assumptions used and how calculations were performed so stakeholders can understand and evaluate the methodology. When relying on data or methodologies from other states or Canada, the assessment must validate or calibrate those assumptions using Minnesota-specific information—such as per-capita MSW and recycling comparisons or findings from the recent Minneapolis capture rate study. If these steps cannot be completed, the Advisory Board recommends withholding all data from this section until it can be accurately and thoroughly developed in the Full Needs Assessment.

Further Recommendations

While the inaccurate data and misinformation was of utmost concern to the Advisory Board, we also recommend the following improvements around the definitions and language of the report as well as more clarity and consistency regarding the data used in charts and maps.

Recommendations regarding language and definitions

The report should be easy to understand for all stakeholders. All assumptions, language and words need to be clearly defined. This includes, but is not limited to:

- Clarifying the difference between a *City* vs *Municipality*.
- Providing distinct definitions for composting processes, which should include:
 - Static Windrow
 - Aerated Windrow
 - Aerated Static Pile
- Distinguishing between a county submitting a Solid Waste Management Plan and annual SCORE data.
- Defining and including data for all non-residential covered entities, including public buildings and spaces.
- Using consistent terminology when referring to different groups of entities – e.g., *all covered entities*, *residential households only*, *or non-residential covered entities only*, *or all entities including covered and non-covered entities*.
- Clarifying whether “prevalence of use” refers to services offered in the area or just the proportion of households actually using those services.

Sections should be clearly labeled so readers understand whether the subject is recycling, composting, or both. For example, the “Contractual Arrangements” section appears after the composting section but only addresses recycling contracts, which is confusing. It takes a minute for the reader to realize the report is **ONLY** about recycling contracts and not composting contracts. There is no comparable information on organics collection contracts, nor any indication of whether that data appears elsewhere.

The list of recycling sorting technology should make clear the impact of the different technologies on recycling capacity and covered entity access. This context is necessary to identify where capacity improvements may be needed. Each technology listed should be accompanied by sufficient context. For example, instead of stating Robotics Employing AI with “arm intended to pick” replace the phrase in quotation with “implement or other means used to positively or negatively sort specific material from passing material stream.”

Additionally, descriptions of organized collection services should always clearly state if they apply to MSW, recyclables, and/or compostable materials, as these distinctions have significant operational and cost implications. Finally, the report should reduce repetition. For example, if MRF equipment is thoroughly defined in the glossary of terms, reference the glossary rather than repeating the definitions in the MRF Technology section.

Improve clarity, consistency and usefulness of data in charts and maps

The clarity, consistency, and usefulness of the charts and maps in the report need significant improvement so readers can easily understand the data and how it supports the assessment conclusions. All maps should be presented at a higher resolution, with clear labeling, and should include zoomed-in views of the metro area where appropriate, for example, when showing composting drop-off sites. Maps should also appear in the sections most relevant to their subject matter or, if more appropriate, be placed in an appendix for easy reference.

Charts require similar improvements. Each chart must include a citation to its data source, as several charts in the draft make it unclear whether the data comes from SCORE reporting or external estimates. The report should also clearly explain all assumptions, particularly when incorporating non-Minnesota data, scaling up limited datasets to represent statewide conditions, or combining rural and urban data to create consistent statewide estimates.

Where charts summarize city-level infrastructure (i.e. tables 8 and 9), the report should indicate whether data excludes residents living outside of city boundaries, and if so, document what percentage of the households and non-residential covered entities are not included in the chart. In addition to sorting by region, all data should also be sorted and presented by density (i.e. urban and rural) to provide a more complete picture of varying needs and costs.

The draft report also includes several charts that contain similar but conflicting data. Any inconsistencies across charts, or between charts and the written text, should be reconciled or explained through notes or an appendix. For example, tables 5, 6, 10, 24, 26, and 27 were all very similar but also slightly different. This led to confusion as to why they were different – was there an error or is the difference due to differing data sources.

Some charts reproduced from external entities include information unrelated to covered materials and would be more appropriate in an appendix. For example, instead of reprinting the full table from the REC Guidelines that include items such as mirrors, bakeware, scrap metal, and batteries, the report should reference the original chart and include only the portions relevant to covered materials.

Finally, combine related charts so stakeholders can easily understand the full needs assessment, for example, the following charts should be displayed together:

- Current collection of covered materials
- Projected generation of covered materials, and
- statewide processing capacity of covered materials

This gives readers a full picture of where Minnesota is doing well in terms of recovery, has capacity for expected increase in recovery, and needs to improve. This will also help check data accuracy. For example, if estimated current collection of covered materials is 90% of estimated generation of covered materials, based on capture rates studies, we know at least one of those data points is incorrect.

Summary Recommendation

We strongly recommend extending the project timeline to ensure that:

- Data and information included in the report is:
- Accurate and relevant to Minnesota
- Used only when they represent a comprehensive or truly representative sample
- Excluded from the report if it cannot meet the above criteria with details stating how more complete and accurate data will be obtained for the full needs assessment.
- Definitions and terminology are consistent and clearly described so that all stakeholders can understand the report.
- All maps, charts and data are cross-referenced, well labeled, easy to read and accompanied by clear documentation when discrepancies occur between data sources.

The Advisory Board is united in its commitment to helping Minnesota launch a strong and effective EPR program. A thorough Preliminary Needs Assessment is essential for the work ahead. We appreciate your

attention to these concerns and your continued partnership in this work. We remain ready to support the Agency in developing the robust, transparent, and equitable system Minnesotans deserve.

Thank you for your time and consideration.

Sincerely,

Minnesota's Packaging Extended Producer Responsibility Advisory Board