

Annex EPS Transport and Protective Packaging:

Washington, Pacific Northwest, and British Columbia Collection, Processing, and End-Market Infrastructure

1. Purpose

This annex provides supporting information concerning existing and emerging infrastructure for the collection and recycling of expanded polystyrene transport and protective packaging in Washington and neighboring jurisdictions.

The evidence demonstrates an established recycling pathway:

source-separated collection → consolidation → densification → transportation → processing → recycled-polystyrene commodity → responsible end market.

The available evidence also demonstrates why the absence of complete processor data should not be equated with absence of recycling activity.

Many EPS recyclers developed independently from producer responsibility programs. Producers and producer associations generally cannot compel unaffiliated commercial entities to provide proprietary throughput or end-market information.

Accordingly, documented recycling volumes should be viewed as verified minimums unless the underlying data collection process is demonstrated to be comprehensive.

2. Washington State Infrastructure

2.1 RRS 2022 Washington Recycler Research

In 2022, Resource Recycling Systems (RRS) developed a national EPS recycler database for EPS-IA.

RRS identified five Washington entities associated with EPS recycling:

Entity	Washington EPS	
	Relevance Identified by RRS	Current Data Available to EPS-IA
Albertsons/Safeway	Identified in RRS Washington list	No 2024 facility-specific EPS volume reported to EPS-IA

Entity	Washington EPS Relevance Identified by RRS	Current Data Available to EPS-IA
City of Tacoma	Municipal EPS collection/processing	No facility-specific 2024 throughput reported to EPS-IA; current municipal infrastructure independently documented
CityMix	Recycled EPS end- use/application	No 2024 facility-specific volume reported to EPS-IA
Styro Recycle, LLC	Dedicated EPS collection and processing	2024 post-consumer processing volume reported
Total Reclaim	Identified in RRS Washington list	No 2024 facility-specific EPS volume reported to EPS-IA

Important limitation: The RRS list was developed as an infrastructure research resource and should not be represented as a comprehensive census of every EPS recycler or end market.

Subsequent review of the national database has identified known EPS recyclers elsewhere that were not captured in the 2022 list. This reinforces the importance of treating facility directories as useful evidence of known infrastructure rather than proof that facilities not appearing in the directory do not exist.

2.2 Styro Recycle — Kent, Washington

Styro Recycle operates a dedicated EPS recycling facility in Kent.

The facility publicly accepts clean EPS, including clean shipping coolers, Styrofoam sheets, and other qualifying rigid EPS material. Commercial quantities can also enter the recycling system through specialized collection arrangements.

EPS-IA's 2024 recycling survey provides quantitative evidence of the facility's actual post-consumer processing activity.

Styro Recycle reported approximately:

510,000 pounds of post-consumer EPS processed in 2024

or more than:

255 tons of documented post-consumer EPS.

Styro Recycle also reported substantial pre-consumer EPS processing during the same year.

This facility-specific data is important because it establishes actual commercial-scale post-consumer processing in Washington.

The approximately 510,000-pound figure should **not**, however, be interpreted as Washington's total EPS recycling volume.

It represents the recycling volume reported to EPS-IA by one Washington operation.

Data qualification

EPS-IA's survey is voluntary. Independent recycling entities are not required to participate in the survey or provide EPS-IA with facility-specific operational data.

Accordingly:

Reported volume = documented volume.

It does not necessarily equal:

Total volume recycled in Washington.

2.3 King County — Bow Lake and Shoreline

King County provides separate collection of qualifying clean white EPS blocks at the Bow Lake and Shoreline recycling and transfer stations.

The County expressly advises residents that Styrofoam cannot be placed in conventional curbside recycling and instead directs the material to dedicated collection.

The service operates in partnership with Styro Recycle.

The material is required to be clean and dry, with tape, labels, and other contamination removed.

This system is an existing example of:

public collection site → source-separated EPS → specialized processor.

Evaluation significance

King County demonstrates that the operational concerns associated with conventional curbside collection can be addressed without discarding the material.

The program separates the question:

“Should this material go in the curbside cart?”

from:

“Can this material be recycled through an appropriate system?”

2.4 City of Seattle — Special-Item Collection

Seattle Public Utilities maintains a separate special-item collection option for EPS blocks and forms.

The program accepts limited quantities of EPS blocks/forms and requires removal of tape and other packing material.

Seattle does not require EPS to be placed in the conventional mixed curbside recycling stream.

This provides an additional alternative collection model:

scheduled source-separated collection rather than permanent depot collection.

It demonstrates that Alternative Collection List implementation can employ multiple service models depending upon geography and population density.

2.5 City of Tacoma — Municipal Densification

The City of Tacoma restored EPS recycling at the Tacoma Recycle Center in May 2026 following installation of a new municipal EPS densifier.

The City currently accepts clean qualifying material including:

- rigid EPS packaging blocks;
- EPS packaging sheets; and
- qualifying EPS coolers.

Tacoma specifically excludes packing peanuts, food containers, and dirty or contaminated foam.

This acceptance policy itself illustrates the usefulness of distinguishing clean molded transport and protective packaging from other EPS products.

Collected material is processed on site through the City's densifier.

The densifier compresses the EPS into solid blocks, after which the material is transported to manufacturers for use as feedstock for new products.

Evaluation significance

Tacoma demonstrates all of the principal operational elements relevant to Ecology's evaluation:

1. consumer identification;
2. source separation;
3. contamination controls;
4. municipal collection;
5. densification;
6. reduced transportation volume;
7. transfer to specialized recycling infrastructure; and
8. preparation for new manufacturing.

Tacoma therefore provides direct Washington evidence that low bulk density is an **infrastructure consideration that can be managed through densification**, rather than an inherent barrier to recycling.

2.6 CityMix — Washington Recycled EPS Application

CityMix, headquartered in Washington, publicly describes a technology that uses recycled waste EPS as a lightweight aggregate for concrete and concrete products.

CityMix states that waste packaging and insulating EPS can be converted into coated EPS particles incorporated into cement-based products.

Its current public materials describe the product as composed predominantly of recycled waste by volume.

This provides evidence of an additional recycled-EPS application distinct from conventional extrusion of densified EPS into polystyrene feedstock.

Further facility-specific verification would be appropriate before attributing particular Washington annual tonnage to this pathway.

Evaluation significance

CityMix demonstrates that recycled EPS may enter multiple end-use applications and reinforces why responsible-market evaluation should examine actual downstream pathways rather than rely solely on a count of conventional reclaimers.

3. Data Limitations and Independent Market Participants

3.1 Five Entities Identified; One Provided EPS-IA With 2024 Volume Data

The RRS research identified five Washington entities associated with EPS recycling.

EPS-IA obtained facility-specific 2024 processing information from only one: Styro Recycle.

The correct inference is **not** that the remaining entities recycled zero EPS.

The correct inference is that EPS-IA does not possess verified 2024 facility-specific throughput data for those entities.

Those statements are materially different.

3.2 Independent Recycling Activity Predates EPR

Specialized EPS collection and recycling systems developed before Washington's current producer responsibility framework.

Existing recycling transactions may involve:

- commercial generators;
- municipal programs;
- private collectors;
- transfer facilities;
- independent recyclers;

- brokers;
- manufacturers; and
- downstream markets.

A producer may not be party to those transactions.

A PRO may likewise lack a contractual relationship with a recycler handling material generated outside the PRO-supported collection system.

3.3 Data Availability Should Not Be Confused With Producer Control

An independent recycler may possess information relevant to statewide recycling performance but have no commercial reason to provide detailed proprietary data voluntarily to an unrelated producer or industry association.

Potentially sensitive information includes:

- annual throughput;
- customers;
- source locations;
- contamination;
- yield;
- pricing;
- commodity sales;
- buyers;
- contracts; and
- downstream destinations.

Washington law recognizes the potential sensitivity of information submitted by service providers, material recovery facilities, responsible markets, and other entities by providing mechanisms for requesting confidentiality.

That recognition underscores an important point: relevant recycling information may reside with entities other than producers.

4. Performance Measurement Implications

Washington defines a recycling rate based on material delivered to responsible markets relative to material introduced.

The Recycling Reform Act also requires performance targets, including recycling rates for materials delivered to responsible markets.

For purposes of measuring recycling performance, the statute contemplates methodologies measuring material as it leaves a material recovery facility or other processing facility.

Funded service providers have documentation obligations to the PRO.

The challenge arises when legitimate recycling occurs through independent transactions outside the PRO-supported system.

Illustrative example

Assume:

- 100 tons of a covered material are introduced;
- 45 tons actually reach responsible recycling markets;
- 30 tons move through channels for which the PRO has complete documentation; and
- 15 tons are recycled through independent facilities from which comprehensive data cannot be obtained.

The environmental outcome is a **45% recycling rate**.

If the measurement system gives credit only for data directly controlled by the PRO, reported performance could appear to be **30%**.

That difference is not a recycling failure.

It is a **measurement gap**.

This example illustrates why future performance methodologies should address independently managed material rather than presuming unreported activity equals zero.

5. Three Distinct Implementation Risks

5.1 Measurement Risk

Can producers or the PRO accurately quantify recycling occurring through independent market channels?

5.2 Control Risk

Can producers or the PRO compel independent generators, recyclers, brokers, consumers, or end markets to behave in a manner necessary to satisfy the performance metric?

5.3 Proof Risk

Where recycling actually occurs, can producers or the PRO obtain documentation controlled by an independent third party sufficient to obtain regulatory credit for that recycling?

These questions should remain distinct.

An entity may be legally responsible for a performance metric without possessing control over all events or information contributing to the metric.

That distinction warrants careful treatment when Ecology develops implementing methodologies.

6. Potential Numerator/Denominator Asymmetry

Producer reporting may permit Washington to estimate the amount of covered material introduced with considerable precision.

Recycling volumes present a different information problem.

Some recycling data can be obtained from PRO-funded service providers, but other recycling activity may occur through independent commercial channels.

This creates the possibility of an asymmetric calculation:

Denominator: comprehensively reported producer introduction data.

Numerator: partially observable recycling data.

If unobserved recycling is automatically treated as zero, the calculation will systematically bias measured recycling performance downward.

This concern reinforces the importance of developing practical means for collecting downstream data directly from the entities possessing it, or alternative methods for reasonably accounting for independently recycled material.

7. Oregon Regional Precedent

Oregon's Recycling Modernization Act provides a particularly relevant regional comparison.

Oregon's EPR planning identifies:

Block White Expanded Polystyrene (EPS)

as a distinct material.

Current program planning estimates approximately 490 tons of block white EPS collection and contemplates producer-supported collection infrastructure for materials not suited to conventional curbside collection.

The significance for Washington is twofold.

First, Oregon demonstrates that protective/block EPS can be evaluated as its **own material category**.

Second, Oregon demonstrates that EPR can recognize recyclable material while assigning it to a **specialized collection pathway**.

Washington therefore need not choose between conventional curbside collection and disposal.

8. British Columbia Regional Precedent

Recycle BC operates one of the region's most mature packaging EPR systems.

Recycle BC expressly lists foam packaging as:

Recycle at Depot Only.

Accepted foam includes:

firm foam cushion packaging used to protect electronics, small appliances, and similar products.

This is directly analogous to EPS transport and protective packaging.

Recycle BC maintains the material outside conventional curbside collection but within the recycling program.

Residents take qualifying foam to designated depots where source separation protects the material from the breakage and sorting problems associated with commingled collection.

Recycle BC reports that foam packaging is recycled into products such as:

- picture frames;
- construction trim;
- moulding;
- park benches; and
- fence posts.

Evaluation significance

British Columbia provides a mature demonstration of the precise policy principle EPS-IA recommends:

A material may be inappropriate for mixed curbside collection and nevertheless remain an accepted recyclable packaging material within an EPR program.

9. Regional Infrastructure Summary

Program / Entity	Location	Material / Role	Collection or Processing Model	Significance
Styro Recycle	Kent, WA	Clean EPS including transport packaging	Drop-off, commercial collection, processing/densification	>255 tons documented post-consumer processing in 2024
King County	Bow Lake / Shoreline, WA	Clean white EPS blocks	Dedicated municipal drop-off	Existing alternative public collection

Program / Entity	Location	Material / Role	Collection or Processing Model	Significance
Seattle Public Utilities	Seattle, WA	EPS blocks/forms	Scheduled special-item collection	Alternative collection without mixed curbside
Tacoma Recycle Center	Tacoma, WA	Rigid EPS packaging	Municipal drop-off + on-site densifier	Direct demonstration of densification model
CityMix	Washington	Recycled waste EPS application	EPS used in lightweight concrete aggregate	Additional end-use pathway
RRS Washington research	Washington	Five entities identified	Infrastructure research	Demonstrates broader activity but not comprehensive census
Oregon RMA / PRO planning	Oregon	Block white EPS	Producer-supported specialized collection	Neighboring EPR classification precedent
Recycle BC	British Columbia	Firm protective foam packaging	Depot-only EPR collection	Mature regional alternative collection precedent

10. Interpretation of Documented Washington Volumes

EPS-IA recommends that Ecology use the following terminology when reviewing available data:

Appropriate

“Styro Recycle reported approximately 510,000 pounds of post-consumer EPS processed during 2024.”

EPS Industry Alliance
August 12, 2026

“More than 255 tons of Washington post-consumer EPS recycling is therefore affirmatively documented through this facility-specific survey response.”

Not supported by the available data

“Washington recycled only 510,000 pounds of EPS.”

or

“Other Washington facilities recycled no EPS.”

The survey does not establish either conclusion.

The available information establishes a **floor**, not a statewide total.

11. Implications for Ecology’s Collection-List Evaluation

The evidence in this annex supports the following findings.

Collection access exists and can be expanded.

Washington already uses multiple source-separated collection models.

Appropriate processing infrastructure exists.

Washington has dedicated EPS processing and municipal densification infrastructure.

Actual post-consumer throughput is documented.

At least approximately 510,000 pounds of post-consumer EPS was reported processed by one Washington recycler in 2024.

Available data is incomplete.

Four other Washington entities identified through RRS research did not provide EPS-IA with comparable 2024 facility-specific data.

Incomplete data does not establish absent recycling.

Independent commercial entities cannot necessarily be compelled by producers or industry associations to disclose proprietary information.

Regional EPR programs support separate classification.

Oregon separately identifies black white EPS.

Regional EPR programs support alternative collection.

British Columbia accepts firm protective foam packaging through a depot-only system.

Conventional curbside incompatibility is therefore not dispositive.

The available evidence supports management through alternative collection rather than exclusion from recycling.

12. Conclusion

Washington already possesses significant components of an EPS transport and protective packaging recycling system.

The record includes:

- five Washington entities identified through prior independent infrastructure research;
- more than 255 tons of post-consumer EPS processing affirmatively documented at one Washington facility during 2024;
- dedicated private EPS collection and processing;
- municipal drop-off collection;
- scheduled source-separated collection;
- a newly installed municipal EPS densifier;
- recycled-EPS manufacturing applications; and
- neighboring EPR jurisdictions recognizing specialized collection of EPS protective packaging.

The record also identifies an important limitation in evaluating this infrastructure: recyclers and downstream market participants may operate independently of producers and may not voluntarily provide comprehensive facility data.

Ecology should therefore distinguish carefully between:

no recycling,

no recycling capacity,

and

no data available to the producer concerning independent recycling activity.

Those conditions are not equivalent.

Recognizing that distinction now will improve Ecology's evaluation of EPS transport and protective packaging and reduce the risk that future producer responsibility performance methodologies measure availability of third-party data rather than actual environmental performance.