



Roadmap and Charter

David Allaway

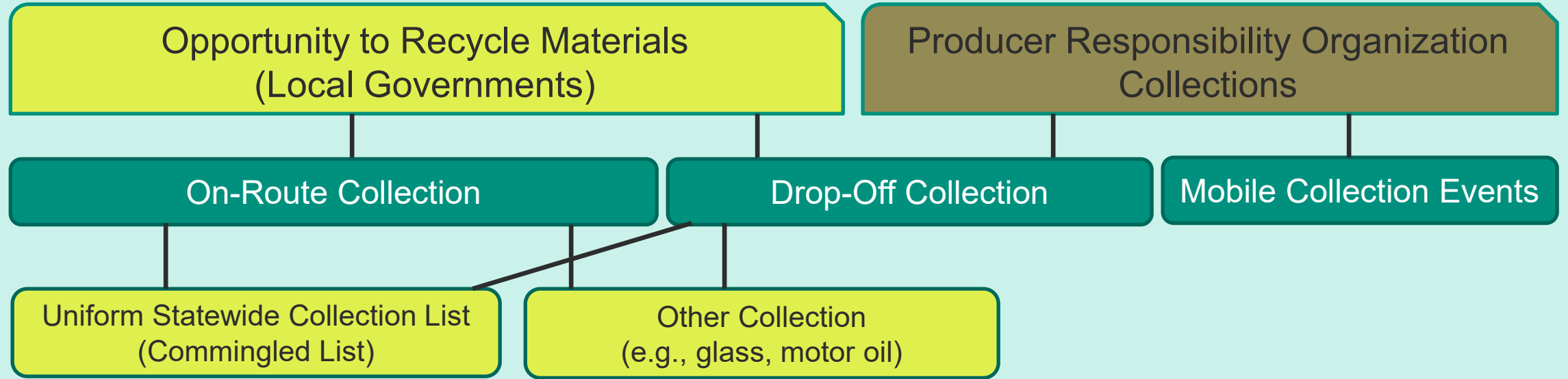
Oregon DEQ Materials Management Program

Technical Workgroup on Materials Lists

March 23, 2022



Initial Rulemaking (2022 – 2023)



Other Processes

PRO Program Plans

- Could add materials to Uniform Statewide Collection List (subject to DEQ Plan approval)
- Could add other recycling to meet plastic recycling goal(s)

Other Private Recycling

Subsequent EQC Rulemakings

Initial rulemaking

Research and Evaluation

- DEQ research (in-house, contracted)
- Request for Information
- Technical Workgroup

Rulemaking

- Rulemaking Advisory Committee
- Draft rules and public comment
- Vote by EQC

ORSAC Consultation and Recommendations

Designating a material creates several obligations


- Requires collection/recycling by local governments and/or PROs
 - As a “recyclable material” (regardless of economics), disposal prohibited once properly separated
- Defines (by exclusion) “contamination”:
 - Triggering requirements on local governments, processors and PROs
- Triggers PRO requirements relating to public outreach
- Informs permitting/certification of commingled processing facilities
- Creates PRO obligation to ensure materials flow to responsible end markets
- Impacts material-specific “base fees” set by PROs on members

Evaluation criteria – ORS 459A.914(3)

- (a) The stability, maturity, accessibility and viability of responsible end markets;
- (b) Environmental health and safety considerations;
- (c) The anticipated yield loss for the material during the recycling process;
- (d) The material's compatibility with existing recycling infrastructure;
- (e) The amount of the material available;
- (f) The practicalities of sorting and storing the material;
- (g) Contamination;
- (h) The ability for waste generators to easily identify and properly prepare the material;
- (i) Economic factors;
- (j) Environmental factors from a life cycle perspective; and
- (k) The policy expressed in ORS 459.015 (2)(a) to (c).

Information gathering

- DEQ staff/internal research
- Request for Information
- Cascadia Consulting Group: scenario evaluation
- Technical Workgroup conversation and members
- Others



Request for Information

February 3, 2022

Request for Information: Oregon statewide recycling collection list and producer-collected materials (for recycling)

The Oregon Department of Environmental Quality is requesting technical information that can be used to evaluate materials against evaluation criteria set forth in statute. **Information is requested by March 20, 2022.** Information will be used by DEQ in order to evaluate materials as part of developing recommendations for inclusion (or exclusion) of materials from statewide recycling lists, which are being developed in accordance with Section 22 of Oregon's Plastic Pollution and Recycling Modernization Act (Senate Bill 582).

Background and Context

In 2021, the Oregon Legislature adopted, and Governor Kate Brown signed into law, [Senate Bill 582](#), the Oregon Plastic Pollution and Recycling Modernization Act. The Act requires numerous changes that are intended to modernize and stabilize recycling services in Oregon and further reduce the environmental impacts of certain materials across their full life cycle.

Section 22 of the Act requires the Environmental Quality Commission to identify two lists of materials by administrative rule. Both lists, and the requirements to collect and recycle the materials on those lists, will go into effect on July 1, 2025.

Statewide collection recycling list [per Section 22(1)(a)]

The first list is for "materials collected to provide the opportunity to recycle". This refers to on-route and drop-off recycling collection opportunities provided by all local governments in the state with populations over 4,000, and requirements for solid waste disposal sites to collect materials for recycling.

To the extent that some of these materials will be collected commingled with others, that subset of the first list will form the basis of what is called the "uniform statewide collection list". The uniform statewide collection list can be expanded to include new items if producer responsibility organizations (PROs) propose via a program plan, and DEQ approves, such additions to the uniform statewide collection list. Local governments offering commingled collection will be required to collect all of the materials on the uniform statewide collection list, and will not be allowed to promote for acceptance other materials in commingled collection. Administrative rules may also require local governments to collect additional materials using separate (not commingled) collection.

[RecyclingAct.Oregon.gov](https://recyclingact.oregon.gov)

 State of Oregon
DEQ Department of Environmental Quality

Workgroup charter



Oregon Department of Environmental Quality

Charter: Technical Workgroup for Recycling Modernization Act – Section 22 (“Material Lists”)

March 9, 2022

Introduction

The Oregon Legislature passed the Plastic Pollution and Recycling Modernization Act (Senate Bill 582) during the 2021 legislative session. It was signed by Governor Brown on Aug. 6, 2021. The new law became effective Jan. 1, 2022 and recycling program changes start in July 2025.

Section 22 of the Recycling Modernization Act requires the Environmental Quality Commission (EQC) to consider multiple criteria when determining whether a material should be collected for recycling.

Purpose

The purpose of this Technical Workgroup (“TWG” or “workgroup”) is to provide technical input to DEQ as the Department evaluates materials against statutory criteria. This early-stage research and deliberation will also inform subsequent discussion by a Rulemaking Advisory Committee (RAC).

TWG members will provide feedback to DEQ on a variety of questions and issues related to the evaluation of different materials against statutory criteria (ORS 459A.914(3)). The TWG may review and discuss draft memos, reports and other research products prepared by DEQ or contractors, and may engage in conversations with other parties that choose to [share information](#) regarding the evaluation of different materials against statutory criteria.

The workgroup will help DEQ perform the necessary background research and evaluation to ensure that a subsequent rulemaking is well-informed. A separate Rulemaking Advisory Committee (RAC) will consider proposed rule concepts that may be informed by this research. Members of the Technical Workgroup will provide information to DEQ that the Department will consider in forming recommendations for the RAC.

Background and Process

Section 22 requires the EQC to adopt [administrative rules](#) that identify materials that are suitable for recycling collection. Administrative rules explain, expand on or implement laws, and carry the power of law. The rulemaking will identify materials for a “uniform statewide collection list” (which local governments must provide for collection of, if they offer commingled collection) as well as additional materials that local governments and producer responsibility organizations (PROs) must provide for collection and recycling of.

DEQ will draft administrative rules for EQC’s consideration concerning a number of topics, including materials lists. A single RAC that meets during the second half of 2022 and early 2023 will consider DEQ’s proposed approaches for that complete package of rules. DEQ anticipates that the EQC will review and consider for adoption draft rules during the summer of 2023. The resulting recycling lists may be changed in the future, potentially requiring additional rulemakings.

This workgroup will focus exclusively on Section 22 of the Act. Individual members of the workgroup will discuss between themselves and with DEQ staff a variety of topics, but will not be making formal recommendations. Meetings will be structured to allow for significant and meaningful conversation between TWG members and DEQ staff.

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Anticipated Schedule and Time Commitment

- Approximately six months, between March and August (possibly September) 2022
- Approximately four to six meetings, between three to six hours each
- Schedule depends in part on the level of interest in, and discussion about, individual materials.

Membership

This Technical Workgroup consists of the following members:

- Liz Bedard, The Recycling Partnership
- Dave Claugus, Pioneer Recycling
- Kate Eagles/Steve Alexander, Association of Plastics Recyclers
- Gabe Forrester, Douglas County
- Rosalynn Greene, Metro
- Kim Holmes, 4R Sustainability
- Wayne Jackson, WestRock
- Dave Larmouth, Recology Western Oregon
- Laura Leebrick, Rogue Disposal
- Brian May, Marion County
- David McCall, Tillamook County
- Steve Miller, Bulk Handling Systems
- Jerry Powell, Resource Recycling
- Dan Weston, Washington Department of Ecology
- Nicole Willett, Resource Recovery Alliance

Other individuals may be invited to participate in the TWG, based on additional subject matter expertise as needed to inform the agency.

Roles for Non-Members

All workgroup meetings will be open to attendance by the public, and will include an opportunity for public comment. Non-members seeking to provide public comment longer than the standard two or three minutes in duration may contact DEQ staff at least two weeks prior to a meeting to request (and confirm) time on an upcoming agenda. DEQ has also provided a dedicated opportunity and defined process (via a [“Request for Information”](#)) for interested parties to share information regarding specific materials that may be considered for inclusion in the recyclable material lists.

Relationship to Oregon Recycling System Advisory Council

DEQ consultation with the ORSAC on the topic of materials lists will occur in parallel with, but separate from, meetings of this workgroup.

Participation Guidelines

All members of the workgroup are expected to:

- Participate to the best of their abilities and to ensure continuity throughout the process.
- Come prepared for meetings by reading materials prior to the meeting.
- Engage in honest, open-minded, constructive and good-faith discussions to seek understanding and optimal outcomes.
- Treat everyone and their opinions with respect.
- Share air time with peers. Employ the WAIT (Why Am I Talking?) rule after you have spoken on a topic. Comment constructively and specifically.
- Operate according to, and stay focused on, the TWG’s charter.

More Information

Contact DEQ’s project manager, david.allaway@deq.oregon.gov or visit DEQ’s Recycling Modernization Act website: [RecyclingAct.Oregon.gov](https://www.oregon.gov/deq/recycling/Documents/Section22TWGCharter.pdf).

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<https://www.oregon.gov/deq/recycling/Documents/Section22TWGCharter.pdf>



Working Evaluation of Materials

David Allaway, Justin Gast and Peter Spendelow
Oregon DEQ Materials Management Program
Technical Workgroup on Materials Lists

March 23, 2022



Draft evaluation matrix

Criteria →	Stability and maturity of end markets	Accessibility of end markets	Viability of end markets	Anticipated yield loss during recycling	Compatibility with existing recycling infrastructure: commingled collection and processing	Compatibility with existing recycling infrastructure: separated material collection	Amount of material available	Practicalities of sorting	Practicalities of storing	Contamination	Ability for waste generators to easily identify and properly prepare material	Economic factors	Environmental health and safety considerations	Environmental factors from a life cycle perspective	Policy in ORS 459.015 (2) (a)-(b)	Policy in ORS 459.015 (2)(c)	Other
Material:																	
Paper packaging (uncoated and coated)																	
Old corrugated containers (OCC) – uncoated, ex. pizza boxes	5	5	5	4	5	5	5	5	5	4	4	ES	5	ES	ES	4	
Pizza boxes	5	5	5	4	5	5		5	4	3	4	ES	5	ES	ES	4	
Additional materials forthcoming																	
Printing and writing paper, paper products (non-packaging)																	
High-grade office paper (uncoated)	5	5	5	4	5	5	4	5	4	5	5	ES	5	ES	ES	4	
Newspaper, newsprint	5	5	5	4	5	5	5	5	4	5	5	ES	5	ES	ES	4	
Additional materials forthcoming																	
Plastic packaging and products																	
Clear PET bottles > 6 ounces	5	5	5	3	5	5	5	4	5	4	4	ES	5	ES	ES	5	
Natural HDPE bottles ≥ 6 ounces	5	5	5	3	5	5	4	4	5	4	4	ES	5	ES	ES	5	
Colored HDPE bottles > 6 ounces	4	5	4	3	5	5	4	4	5	4	4	ES	3	ES	ES	5	
Additional materials forthcoming																	
Metal - packaging and other																	
Aluminum beverage cans	5	4	5	5	5	5	4	5	5	4	5	ES	4	ES	ES	5	
Steel (tin) and bi-metal cans	5	5	5	5	5	5	5	5	5	4	5	ES	4	ES	ES	4	
Scrap metal (smaller than 30 inches and less than 30 pounds)	4	4	4	4	2	4	5	2	5	3	2	ES	2	ES	ES	5	
Scrap metal (larger than 30 inches or more than 30 pounds)	4	4	4	4	1	4		2	5	3	2	ES	2	ES	ES	5	
Small metal pieces (e.g., lids, screws and nails). Such items to be collected inside a metal can, which has been crimped tightly closed.	4	4	4	4	2	4		2	5	3	2	ES	2	ES	ES	5	
Additional materials forthcoming																	
Other materials																	
Motor oil	4	4	4	SV	1	5	5	1	2	2	4	3	2	3	2	2	5
Additional materials forthcoming																	

Questions for technical workgroup

- Do you have questions, comments or concerns about the criteria and evaluation rubric?
- Do you have questions or feedback regarding DEQ's initial ratings of materials against criteria?



Drop-Off Recycling

Peter Canepa and Justin Gast
Oregon DEQ Materials Management Program
Technical Workgroup on Materials Lists
March 23, 2022



Outline

- Introduction
 - Section 22 (1)(b)
- Scope and Research Objective – What we want to evaluate
 - Program details via a survey
 - Environmental impacts via LCA
- Discussion

Section 22 (1)(b)

The Environmental Quality Commission, in consultation with producer responsibility organizations and the Oregon Recycling System Advisory Council, shall by rule identify materials that are suitable for recycling collection in this state and the methods for collection of those materials. Rules adopted under this subsection must distinguish between:

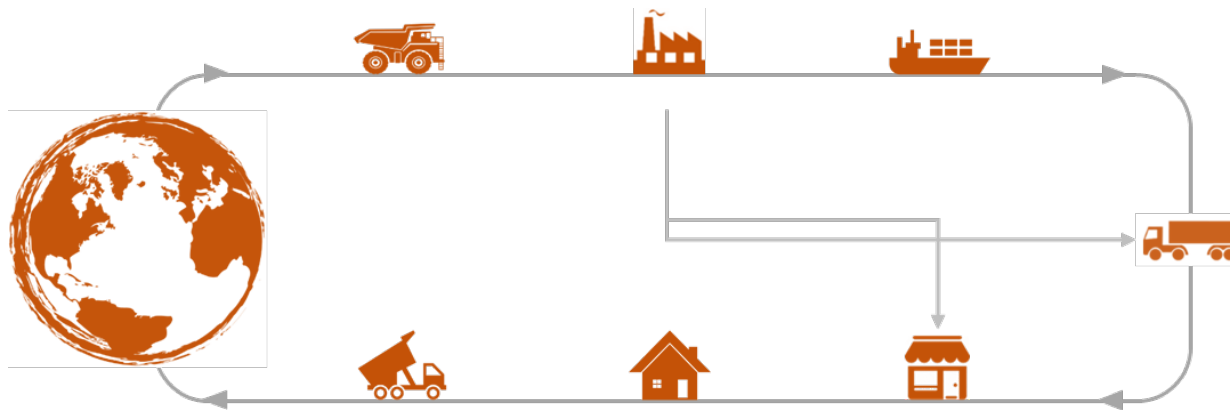
- (a) Materials collected to provide the opportunity to recycle; and
- (b) Covered products of which a producer responsibility organization must provide for the collection through recycling depot or mobile collection events as provided in section 15 of this 2021 Act.**

Survey of drop-off recycling programs

- Reached out to jurisdictions in eight other states (CO, MI, NC, OH, SC, TN, WA, WI) + local governments and service providers representing seven cities and nine counties in Oregon.
- Questions centered around siting, facility layout, education/communication, contamination and recycling and movement of material.
- Interested in data to help us determine under what circumstances drop-off recycling makes environmental sense:
 - Quantity of material delivered (per delivery)
 - Marginal impacts of in-bound transportation (per delivery)

Environmental Impacts via LCA

- Estimate the environmental impacts of different drop-off recycling scenarios for selected materials
- Monetize environmental impacts using damage cost factors to support total cost accounting (transactional + environmental)



LCA & Environmental Damage Costs

**Transactional
Costs**



Social Costs



Total Costs

*Such as:
Drivers' wages and
benefits, fuel,
trucks, carts,
maintenance,
management,
overhead,
education, etc.*

*Such as:
Pollution, land use
impacts, other
environmental
impacts,
gentrification, etc.*

**Traditional cost
benefit
assessment: Are
the transactional
costs of a policy
or investment
justified by the
resulting
benefits?**

Discussion: What makes for a successful drop off system?

- **Materials**
 - What materials should be collected?
 - Does drop-off collection produce a higher quality / higher yield of material compared to other methods of collection?
 - How is contamination handled?
- **Transport**
 - Mode/method of collection (roll off containers, dumpsters, igloos, other)
 - Siting (distances, density of sites, types of locations)
- **Data: What's available? What could be available?**
 - Quantity of material delivered (per delivery)
 - Marginal impacts of in-bound transportation (per delivery)
 - Other?



Draft Scenarios for Evaluation

David Allaway

Oregon DEQ Materials Management Program

Technical Workgroup on Materials Lists

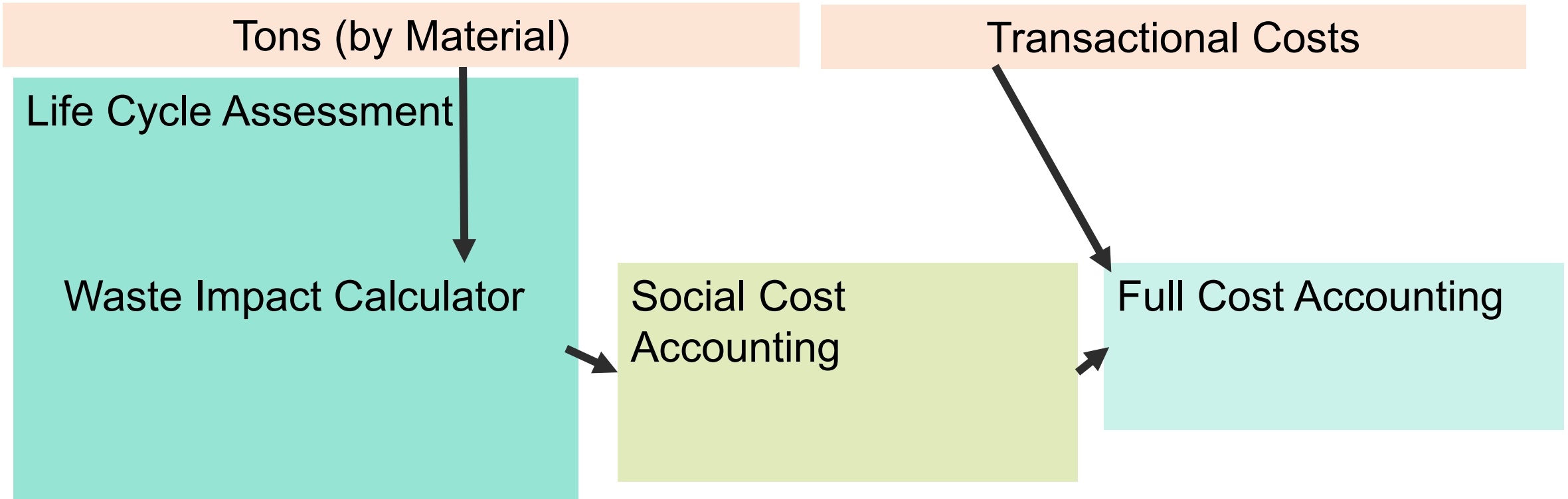
March 23, 2022



Introduction

- Scenarios will be evaluated for transactional costs, environmental impacts and social costs

Cascadia Consulting Group: Infrastructure Scenario Evaluation



Introduction

- Scenarios will be evaluated for transactional costs, environmental impacts and social costs
- A “scenario” is a unique combination of variables
 - Variables = materials, sources, modes of collection, processing, end markets, etc.
- Thousands of possible permutations!
 - But we can’t evaluate thousands of scenarios
 - Likely won’t evaluate the “final, recommended” scenario in this round
- Design scenarios to:
 - Explore a *range* of possible approaches
 - Explore impacts of step-wise changes in single variables

Questions for technical workgroup

After you see the proposed scenarios . . .

- Is this a reasonable range/diversity of scenarios?
- Are there important variables missing?
- Do the potential uniform statewide collection list (USCL) and “depot-only” materials make sense to evaluate?
- Do you have any questions about the process?
- NOT: “Which of these scenarios should the EQC require by rule?”

Scenarios proposed for evaluation (Draft)

S0: Current (2020?) System

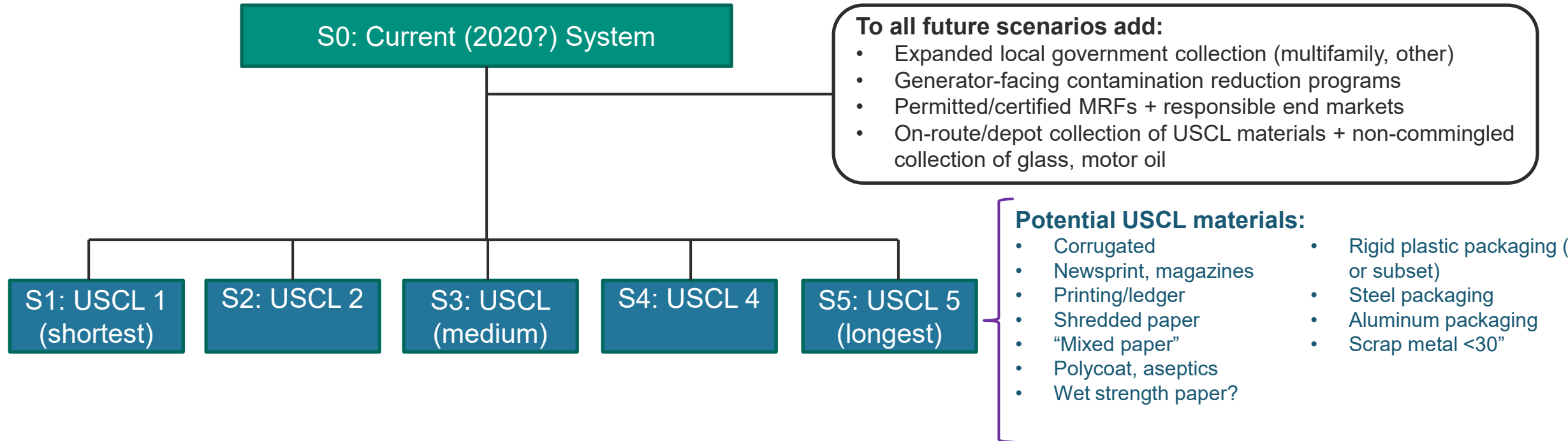
Scenarios proposed for evaluation (Draft)

S0: Current (2020?) System

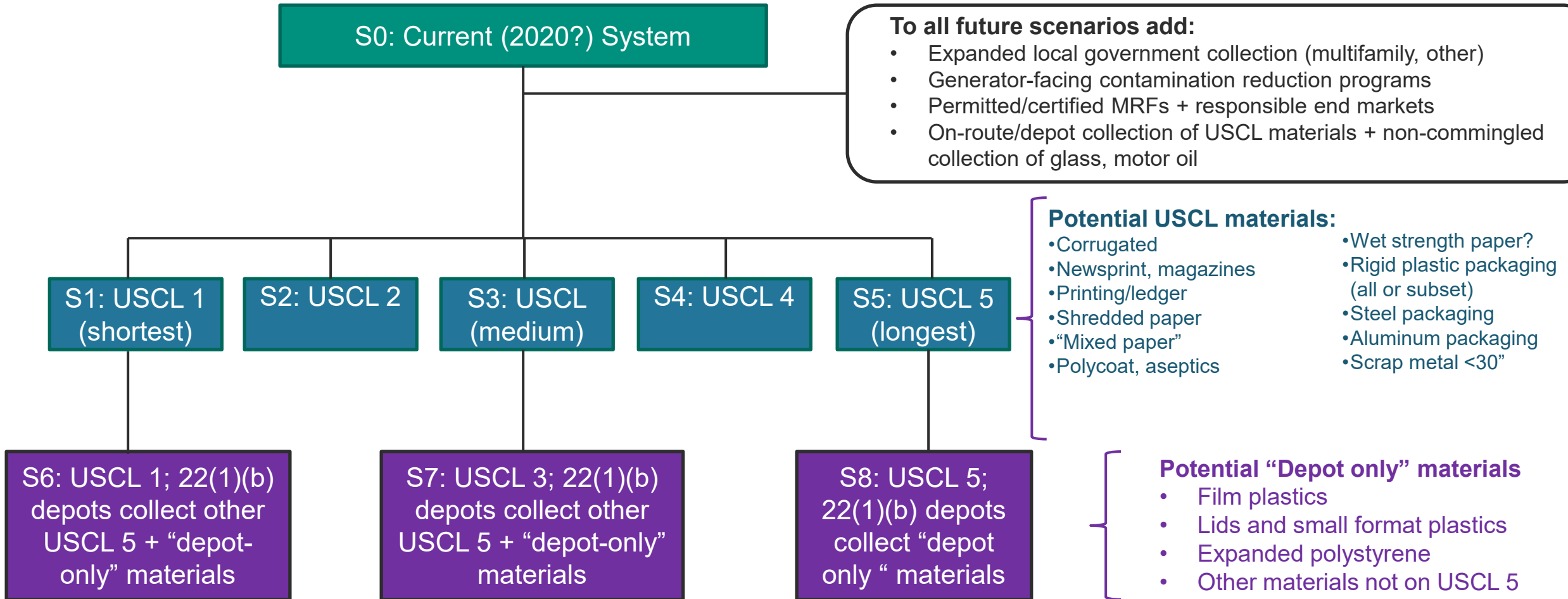
To all future scenarios add:

- Expanded local government collection (multifamily, other)
- Generator-facing contamination reduction programs
- Permitted/certified MRFs + responsible end markets
- On-route/depot collection of USCL materials + non-commingled collection of glass, motor oil

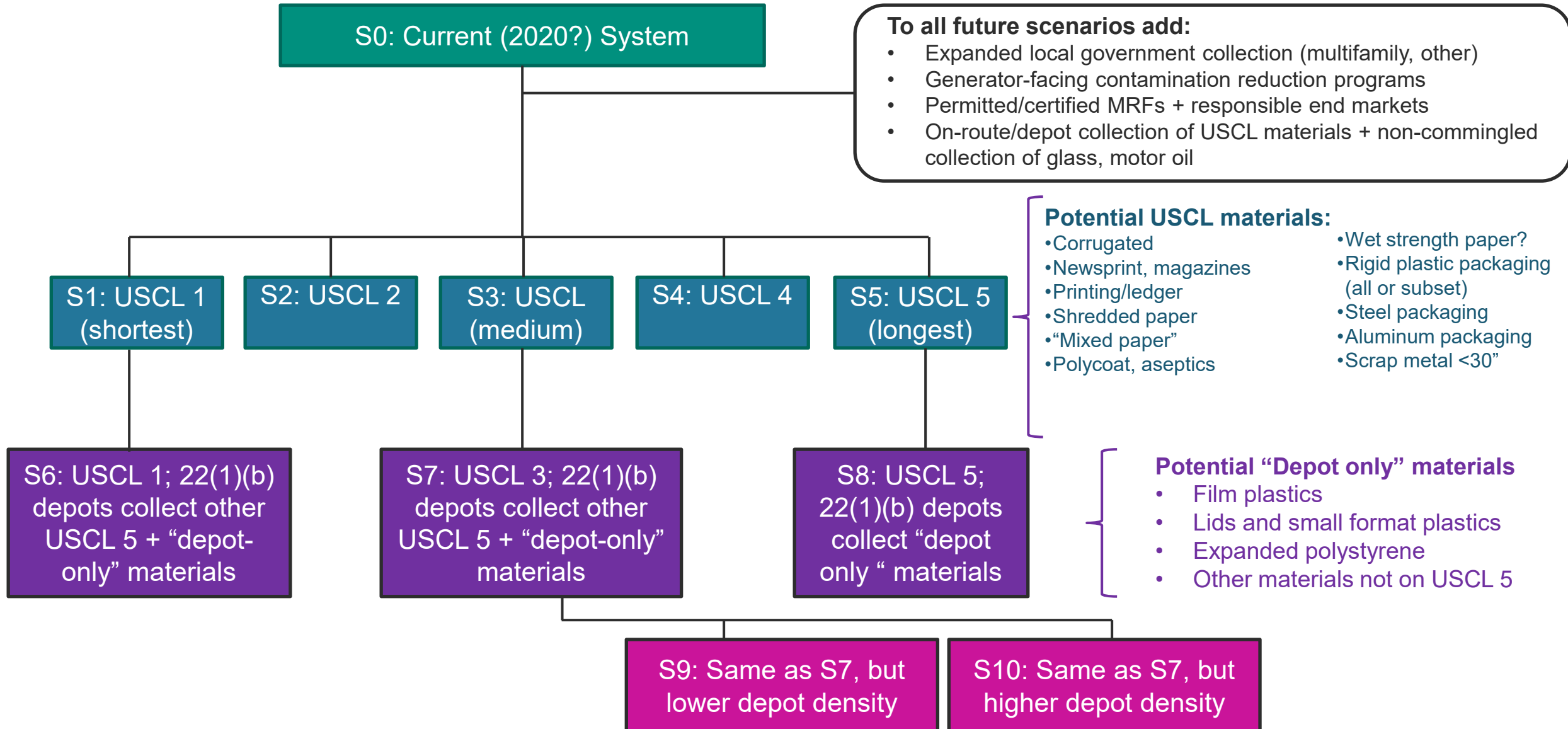
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Scenarios proposed for evaluation (Draft)



Scenarios proposed for evaluation (Draft)



Scenarios proposed for evaluation (Draft)

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- On-route/depot collection of USCL materials + non-commingled collection of glass, motor oil

Potential USCL materials:

- Corrugated
- Newsprint, magazines
- Printing/ledger
- Shredded paper
- "Mixed paper"
- Polycoat, aseptics
- Wet strength paper?
- Rigid plastic packaging (all or subset)
- Steel packaging
- Aluminum packaging
- Scrap metal <30"

Potential "Depot only" materials

- Film plastics
- Lids and small format plastics
- Expanded polystyrene
- Other materials not on USCL 5

S1: USCL 1
(shortest)

S2: USCL 2

S3: USCL
(medium)

S4: USCL 4

S5: USCL 5
(longest)

S6: USCL 1; 22(1)(b)
depots collect other
USCL 5 + "depot-
only" materials

S7: USCL 3; 22(1)(b)
depots collect other
USCL 5 + "depot-only"
materials

S8: USCL 5;
22(1)(b) depots
collect "depot
only" materials

S11: Same as S6,
less 1+ materials


S12: Same as S6,
less 1+ materials

S9: Same as S7, but
lower depot density

S10: Same as S7, but
higher depot density

Scenarios proposed for evaluation (Draft)

S0: Current (2020?) System

 = Evaluate expanded glass depots in lieu of on-route collection mandate (S13 – S20)

To all future scenarios add:

- Expanded local government collection (multifamily, other)
- Generator-facing contamination reduction programs
- Permitted/certified MRFs + responsible end markets
- On-route/depot collection of USCL materials + non-commingled collection of glass, motor oil

S1: USCL 1
(shortest)

S2: USCL 2

S3: USCL
(medium)

S4: USCL 4

S5: USCL 5
(longest)

Potential USCL materials:

- Corrugated
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- Polycoat, aseptics
- Wet strength paper?
- Rigid plastic packaging (all or subset)
- Steel packaging
- Aluminum packaging
- Scrap metal <30”

S6: USCL 1; 22(1)(b) depots collect other USCL 5 + “depot-only” materials

S7: USCL 3; 22(1)(b) depots collect other USCL 5 + “depot-only” materials

S8: USCL 5; 22(1)(b) depots collect “depot only” materials

Potential “Depot only” materials

- Film plastics
- Lids and small format plastics
- Expanded polystyrene
- Other materials not on USCL 5

S11: Same as S6, less 1+ materials

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Questions for Technical Workgroup

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- Are there important variables missing?
- Do the potential uniform statewide collection list (USCL) and “depot-only” materials make sense?
- Do you have any questions about the process?
- NOT: “Which of these scenarios should the EQC require by rule?”



Thank you

