Curbside Recycling in Linn & Benton Counties

History and current state (N.S.)
How it’s collected
Where it goes
What is accepted/not & why
Statistics
Big picture waste hierarchy
History of Recycling

Oregon Bottle Bill signed into law in July 1971 (1st in nation, 10 total)

Opportunity to Recycle or Oregon Recycling Act (SB66)
The Opportunity to Recycle Act provides that, to conserve energy and natural resources, materials management should follow a hierarchy:

• Reduce the amount of waste generated;
• Reuse materials for their original intended use;
• Recycle materials that cannot be reused;
• Compost materials that cannot be reused or recycled;
• Recover energy from materials that cannot be reused, recycled or composted; and
• Dispose of residual materials safely.

The 1991 Oregon Recycling Act (SB 66) strengthened and broadened recycling requirements and added activities to develop markets for recyclable materials. SB 66 set a statewide recovery goal of 50 percent by 2000 and required that DEQ conduct regular waste composition studies and develop a solid waste management plan. SB 66 also created the first eight recycling program elements. The 1997 Oregon Legislature made changes to some of those elements and added a ninth.

Under Oregon’s recycling laws, the state’s mandatory rate of material recovery from the general solid waste stream is 52 percent for 2020. That rises to 55 percent for 2025 and subsequent years. The law also sets mandatory statewide material-specific recovery rates for:

Food waste – 25 percent by 2020;
Plastic waste – 25 percent by 2020; and
Carpet waste – 25 percent by 2025.

More info on the bottle bill can be found here:
Transition to materials management


In June 2015, the Oregon Legislature passed Senate Bill (SB 263). SB 263 better enables DEQ, local governments, and Oregonians to make progress under the 2050 Vision. Among other things, SB 263:

- Raised statewide recovery rates;
- Set statewide material-specific recovery rates for food waste, plastic waste, and carpet waste;
- Made wastesheds’ self-determined recovery goals voluntary to give local governments more flexibility;
- Increased to thirteen the number of recycling program elements available to local governments (effective Jan. 1, 2018, per rule);
- Amended the expanded education and promotion program element to include a contamination reduction education aspect (effective Jan. 1, 2018, per rule);
- Increased minimum numbers of recycling program elements required for certain cities based on their population sizes and distances from Portland (effective Jan. 1, 2018, per rule);
- Added seven waste prevention education and reuse program elements, requiring minimums ranging from three to five elements depending on cities’ populations or location within Metro (effective Jan. 1, 2018, per rule);
- Allows a local government using a DEQ-approved alternative program the flexibility of meeting either the lesser of its recovery goal or recovery levels comparable to similar communities (effective Jan. 1, 2018, per rule);
- Expands statewide the opportunity to recycle to residential and commercial tenants of multi-tenant properties with collection service (effective July 1, 2022, per statute); and
- Permits DEQ to develop outcome-based recovery goals to measure recovery using methods besides materials’ weight, such as energy savings.

Revenue to fund DEQ expenses directly related to the proposed rules was anticipated during the development of Senate Bill 245 (SB 245), which allowed for increases in tipping fees. The legislature also passed SB 245 in June 2015 as a companion to SB 263.
• a vision for materials management

By 2050 Oregonians produce and use materials responsibly
• conserving resources
• protecting the environment
• living well
Local History of Recycling

- September 1982 – Corvallis 1st curbside recycling program in OR; Albany 2nd
- 1st HHW – ‘91 Albany, ‘96 Corvallis
- 1998, curbside recycling becomes commingled
- 2008, Recycling moves to an automated roll cart system
- 2010, Corvallis becomes first City in Oregon to allow all food scraps in Yard Debris Cart for composting.
The Recycling Process

• Collecting recyclables varies from community to community, but there are four primary methods: curbside, drop-off centers, deposit/refund programs, and buy-back centers.

• For *curbside* material, the next leg of their journey is usually the same. Recyclables are sent to a materials recovery facility to be sorted into marketable commodities for manufacturing.

• Recyclables are bought and sold just like any other commodity, and prices for the materials change and fluctuate with the market.
Through Republic Services, most recycling is collected at the curb, or depots.
Source Recycling

Commingled material is sent to Source Recycling in Albany, where it is baled for transport.
Recycling Commodities

• Materials for recycle are called commodities. Just like stock commodities, **there must be a ready market for them to have value.**

• Not all materials that *can* be recycled are recycled in our system, (or most curbside programs in Oregon.)

• The MRF determines what they will accept for recycling based on markets that are available to them to sell those materials.

• What’s recyclable depends on where you live
Processing at the MRF (Materials Recovery Facility)

• After commingled material is baled, it is transported to a MRF, or materials recovery facility, to be sorted.
• At the MRF, commodities are sorted into like materials.
• In this system, only those materials that are accepted by the MRF will be recycled.
The MRF - Processing

• Materials are loaded onto a conveyor belt and are sorted.
• Some sorting is automated, with powerful magnets, series of screens and fans, optical sorters, eddy currents and recently, AI Robots.
• Some sorting is still done by hand.
Pioneer Recycling

https://www.youtube.com/watch?v=bM3WNUCXQDI
Recycling in Oregon – How are We Doing?

In 2017, Oregonians recovered 2,327,645 tons, or 42.8%, of the municipal post-consumer waste generated in Oregon. This was a slight increase from the 42.6% recovery rate reported for 2016.

\[
\text{Total Recovered} = 2,327,645 \text{ tons} \\
\text{Total Generated} = (\text{Total Recovered} + \text{Total Disposed}) = 5,434,333 \text{ tons}^* \\
\text{Recovery Rate} = 42.8\%
\]

Total generation rose by 3.0 percent, with per-capita generation increasing by 1.4 percent from 2016 levels.
Local Recycling – How Are We Doing?

**Benton County Recovery Rate**

Goal 44%

**Linn County Recovery Rate**

Goal 45%

[Graphs showing the recovery rates for Benton and Linn counties from 2004 to 2017. Benton County recovery rates: 48.9, 45.9, 42.2, 44.8, 47.1, 43.9, 45.5, 44.3, 47.4, 47.5, 43.6, 41.3, 35.6, 34.5. Linn County recovery rates: 44, 43, 41, 37, 47.3, 46.5, 49.9, 55.2, 51.1, 50, 48.2, 45.3, 38.2, 37.4.]
Recycling in Oregon – How Are We Doing?

The following are the major categories of materials recovered and their percentages by weight of all material recovered in 2017.

Of the material recovered, 64% of the material recovered was recycled, 23% was composted and 13% was burned for energy.
The New Norm: Recent Impacts on Recycling

• Green Fence 2013
• National Sword, Spring 2017
  • An effort to increase environmental quality
  • Decrease trash received
  • Mixed paper, Plastics
    • .3% contaminants (.5)
    • Right now contamination is at about 10%
• Low quality, lack of storage and lack of markets is leading to disposal of some materials for a period (concurrence)
• Jan, 2018. China does not accept any feedstocks with greater than .5% contamination, forcing recyclers to find new markets in a competitive environment.
How did we get here?

Now What?

Education/Learning to Speak the Same Language

Shift in Thinking about Recycling

Enforcing Rules

Strict Rules
Now What?...Effecting Change

• What You Say and What They Hear
  • Research-based messaging and a harmonized approach to communicating

• Sanne Stienstra, Oregon
  DEQ Pam Peck, Metro

Metro

State of Oregon
Department of Environmental Quality

ORRA
OREGON REFUSE & RECYCLING ASSOCIATION
• Research
  • Landscape Scan
    • Recycling Partnership’s Research and Best Practices
    • Metro, County and City websites
    • Interviewed Master Recycler Coordinator
  • Quantitative: Conducted online survey (English and Spanish)
  • Qualitative: Four focus groups with Bilingual Latinx community members
• **Research Findings**

  • **Key Motivation:** Protecting the environment
  
  • **Core belief:** Recycling more is better than recycling right
  
  • **Key Factors:** What was in it and what it was made of
  
  • **When do they decide:** When sorting

  • **What do they do when in doubt?** Recycle it
• **Research Findings**

  • ▶ Broad confusion about what to recycle
  • ▶ People were confident they were doing it right
  • ▶ Current messaging did not always clear up confusion
  • ▶ Telling recyclers what NOT to recycle is most effective
  • ▶ Most people were unaware of markets issues
Successful behavior change campaigns

▸ Have a clearly defined/targeted audience

▸ Speak to values and identities

▸ Use trusted messengers

▸ Are based on an informed understanding about the current barriers standing in the audience’s way

▸ Only make one “ask” at a time—at a time when the ask will feel relevant, possible and worth doing

▸ Use humor/aspirational messaging rather than negative/shaming
RECYCLE RIGHT
MIXED RECYCLING

Paper & Cardboard
- Junk Mail
- Greeting Cards (no foil or glitter)
- Magazines
- Newspaper
- Phone Books
- Paperback Books
- Paper Bags

Metal
- Steel (tin) cans
- Aluminum cans

Plastics
- Bottles
- Jugs
- Gallones

Papel y Cartón
- Correo no Deseado
- Tarjetas de felicitación (sin aluminio o glitter)
- Revistas
- Periódicos
- Libros telefónicos
- Libros de tapa blanda
- Bolsas de papel

Plásticos
- Botellas
- Jugs
- Gallones

EMPTY CLEAN DRY
VACÍO LIMPIO SECO

March 2018
Preparing Items for the Curb
Empty * Clean * Dry

• Rinsing food residue from containers before recycling
  • prevents bacteria growth
  • reduces contamination of paper in the recycling.
  • helps to protect the health of people who handle it along the way.
• Materials should be loose in cart
  NO PLASTIC BAGS

Empty. Clean. Dry.
Be sure your recyclables are empty, clean & dry before you toss them in the recycling container.
Commingled Recycling

- Newspaper
- Magazines
- Paperboard
- Office Paper/Mail
- Corrugated Cardboard

- NO
  - metallic or laminated paper
  - Coffee cups, ice cream cartons
  - Food soiled paper (pizza box)
  - Paper cartons, aseptic containers
  - Shredded paper
Commingled Recycling

- Metals
  - Aluminum Cans
  - Tinned (steel) Cans

- NO
  - Scrap metal
Commingled Recycling

- Plastics
  - Plastic **Bottles** (opening is smaller than rest)
  - Plastic **Jugs** (bottle with a handle)
Glass

- Glass is the only commodity that must be separated, for now.
- Clear and colored glass containers go in a separate bin for curbside collection.
  - Corvallis area- 1x/month
  - Albany area- Every other week
  - Philomath/Adair Village= in the cart
  - Lebanon – every other week
Common Contaminants: Just Say NO

When in doubt, throw it out!!!
About Those Chasing Arrows…

Check the list, not the label! Just because an item says it is recyclable, doesn’t mean you can toss it into your curbside bin. Virtually every plastic has the chasing arrows. Some packages even state “please recycle.” However, something can only be recycled if there is someone willing to turn the item into something new. There has to be a market for these items.
Resin Identification Code

• This well-known symbol identifies the resin or polymers used in a plastic product.
• It is not intended to dictate whether or not a material will be recycled.
• Just because items have the same number doesn’t mean they have all the same “ingredients” to be combined.
• The state as a whole does not go by this number when collecting recyclables.
Life Cycle Assessment is

“the compilation and evaluation of the inputs, outputs and the potential environmental impacts of a product system throughout its life cycle.”
A New Way to Think

https://www.youtube.com/watch?v=ukD1BUuxmH4
• Life Cycle Thinking

• Production

• Material extraction and processing
• Manufacturing
• International transportation

• Domestic transportation

• End of life use

• Material end of life management
• Home and business use
• Retail distribution

David Allaway | Oregon Department of Environmental Quality
Recyclability vs waste prevention
• For Example
### US EPA coffee study

<table>
<thead>
<tr>
<th>Coffee Packaging (11.5 oz product)</th>
<th>Recyclable postconsumer?</th>
<th>Energy Consumption (MJ/11.5 oz.)</th>
<th>CO2 eq Emissions (lbs/11.5 oz)</th>
<th>MSW Waste Generated (lbs./ 100,000 oz. of product)</th>
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</thead>
<tbody>
<tr>
<td>Steel can – yes Plastic lid – no</td>
<td></td>
<td>4.21</td>
<td>0.33</td>
<td>1,305</td>
</tr>
<tr>
<td>Plastic container – yes Plastic lid - no</td>
<td></td>
<td>5.18</td>
<td>0.17</td>
<td>847</td>
</tr>
<tr>
<td>Flexible pouch - no</td>
<td></td>
<td>1.14</td>
<td>0.04</td>
<td>176</td>
</tr>
</tbody>
</table>
• marine plastics
plastic waste inputs from land into the ocean

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>% of total mismanaged plastic waste</th>
<th>Plastic marine debris (million metric tons/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>China</td>
<td>27.7%</td>
<td>1.32 - 3.53</td>
</tr>
<tr>
<td>2</td>
<td>Indonesia</td>
<td>10.1%</td>
<td>0.48 - 1.29</td>
</tr>
<tr>
<td>3</td>
<td>Philippines</td>
<td>5.9%</td>
<td>0.28 - 0.75</td>
</tr>
<tr>
<td>4</td>
<td>Vietnam</td>
<td>5.8%</td>
<td>0.28 - 0.73</td>
</tr>
<tr>
<td>20</td>
<td>United States</td>
<td>0.9%</td>
<td>0.04 - 0.11</td>
</tr>
</tbody>
</table>

• plastic contamination from bales of mixed paper,
• Indonesia

• Photos: Megan Ponder
Take-Home Points

• Quality over quantity
• Check with local recycler to determine recyclability of an item
• Recycling is only a part of the solution.
• Reuse of materials also plays an important role, and should be utilized when possible.
• Waste reduction - buying, consuming, having less stuff in the first place - is the best option.
• Consider the upstream/downstream effects before consuming or purchasing items
Coming Soon to a Cart Near You.....

Clean #5 Tubs Only