LPRO: Legislative Policy and Research Office

RECYCLING AND WASTE PREVENTION

BACKGROUND BRIEF

HISTORY

The Recycling Opportunity Act, passed in 1983, established solid waste management policies that recognized the environmental benefits of waste prevention, reuse and recycling. To conserve energy and natural resources, the statute uses a solid waste management hierarchy:

Reduce the amount of waste generated.

Reuse materials for their original intended use.

Recycle what can't be reused.

Compost what can't be reused or recycled.

Recover energy from what cannot be reused, recycled or composted.

Dispose of residual materials safely.

The Recycling Opportunity Act also required:

1. "Wastesheds" counties, except for the City of Milton-Freewater and Metro wastesheds, to have recycling depots; and
2. Cities with populations over 4,000 to provide monthly curbside recycling collection service to all garbage service customers.

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The 1991 Oregon Recycling Act (Senate Bill 66) strengthened and broadened recycling requirements and set a statewide recovery goal of 50 percent by 2000. Solid waste generation grew each year through the 1990s, while the amount of materials recovered also grew. By the year 2000, Oregon had not met its 50 percent recovery goal. In response, the 2001 legislature set a statewide recovery goal of 45 percent for 2005 and 50 percent for 2009. The legislation also set Oregon's first statutory waste prevention goals:

- For the calendar year 2005 and subsequent years, no annual increase in per-capita municipal solid waste generation; and
- For the calendar year 2009 and subsequent years, no annual increase in total municipal solid waste generation.

These goals helped to focus programs on prevention and reuse. In addition, they aimed to keep waste generation from growing without considering the sustainability of current waste generation levels.

In 2011, the Department of Environmental Quality (**DEQ**) convened a work group of external stakeholders to develop a broader

framework called "materials management" which would more effectively reduce the impacts of materials produced, used and discarded in Oregon. The materials management approach manages wastes at the time of discard. More broadly, materials management identifies the most significant impacts across the full life cycle of materials – from extraction of resources to recovery and disposal – regardless of where they occur and focuses on actions to reduce them. This shift to a materials management approach recognizes that most environmental impacts occur before materials are discarded.

The Environmental Quality Commission **(EQC)** adopted the *Materials Management in Oregon, 2050 Vision and Framework for Action* in December 2012. In the fall of 2013, DEQ convened another stakeholder work group to help develop legislative concepts for the 2015 session to restore and stabilize funding, improve waste recycling, and update program goals and measures. Senate Bill 263 (2015) updated the statewide recycling goals to:

- Increase the waste recovery goal from 50 percent to 52 percent by 2020, and to 55 percent by 2025;
- Set new recovery goals for high (environmental) impact materials: 25 percent of food and plastics by 2020 and 25 percent of carpet waste by 2025; and
- Strengthen the waste generation goal to 15 percent below 2012 levels by 2025, and to 40 percent below 2012 levels by 2050.

OREGON'S RECOVERY RATE

Oregon has been a leader in recycling programs, and has one of the highest recovery rates for solid waste in the United States. The statewide recovery rate has increased fairly regularly since 1992, when the rate was first calculated. The state met its recovery rate goal in 2013 with a rate of 54 percent, an increase over the 2012 rate of 53.4 percent. The recovery rate includes materials recycled by households and businesses or sent offsite for composting and some materials burned for energy recovery.

OREGON'S WASTE GENERATION RATE

The waste generation rate is calculated using the tons of municipal solid waste disposed of and the tons recovered through recycling, reuse and energy recovery. Methods to reduce waste generation include:

- Waste prevention: Using and wasting less by acquiring fewer items as raw materials, packaging, or consumables or by purchasing more durable goods;
- Reuse: Using something again in its original form (as opposed to recycling, which reformulates materials into new products); and
- Composting on site so those materials do not enter the solid waste stream.

Solid waste generation in Oregon grew between 1992 and 2006, from 3.1 million to 5.7 million tons per year. While population growth contributed to this increase, individuals and businesses produced, on average, 52 percent more discards per capita in 2006 than in 1992. Beginning in 2007, waste generation decreased slightly then fell sharply through 2009, reaching 4.67 million tons. It has increased slightly each year since 2009.

In 2013, the state met one of its waste generation goals: per-capita waste generation

decreased, but the state missed its other goal as overall waste generation increased. Nevertheless, overall and per-capita waste generation has shown very little change from 2009-2013.

BENEFITS OF RECYCLING, WASTE PREVENTION AND REUSE

DEQ uses the results of a Material Recovery Survey to estimate the energy savings resulting from recycling, as well as reductions in greenhouse gases associated with recycling, composting and "counting" energy recovery.

Energy: When recycled materials replace virgin feedstocks in manufacturing, energy savings can be significant. For example, making aluminum from old beverage containers uses 93 percent less energy than making aluminum from bauxite. Newsprint made from old newspapers requires 46 percent less energy to make than newsprint made from wood.

Recycling in Oregon in 2013 (not including composting or energy recovery) saved approximately 30.6 trillion British thermal units (**BTUs**), the equivalent of 245 million gallons of gasoline, or roughly 3.1 percent of total statewide energy used in 2013. These comparisons are imperfect, but the energy savings from recycling in Oregon is significant.

Greenhouse gases: Estimated greenhouse gas reductions from recycling, composting and energy recovery in 2013 equaled 3.0 million metric tons of carbon dioxide: the equivalent of reducing the emissions from 690,000 passenger cars. The reduction is also equivalent to reducing approximately 4.5 percent of 2013 estimated statewide greenhouse gas emissions. The greenhouse gas benefits of waste recovery are partly the result of the large energy savings industries gain by using recycled materials in manufacturing.

Waste prevention benefits: Waste prevention and reuse (as well as recycling) can significantly reduce environmental impacts from raw materials extraction, materials manufacturing and transportation. These environmental benefits "upstream" of the consumer are often significantly larger than the "downstream" benefits of waste reduction. Reducing the overall generation of solid waste is not just about saving landfill space.

CURRENT RECYCLING REQUIREMENTS FOR LOCAL GOVERNMENTS

Cities and counties must ensure that their residents are being provided with opportunities to recycle that meet the minimum requirements of state law. The list below includes changes resulting from the enactment of SB 263 that go into effect in January 2017.

For a city with a population over 4,000, this means that residents who have garbage collection service must also be provided with recycling service, education and promotion. In addition, the city must make sure that, depending on its size and proximity to Portland, at least three and up to eight of the following "menu items" are being provided:

1. Weekly residential curbside collection of source-separated recyclable materials on the same day as garbage service. (If this program element is not implemented, a minimum of monthly curbside collection is usually still required). Local governments must also give notice to each person of the opportunity to recycle and encourage source separation of recyclable materials through an education and promotion program.

2. An expanded recycling education and promotion program that includes recycling collection promotion directed at residential and commercial solid waste service customers and a program that assesses levels of contamination in recycling collection and takes action to reduce that contamination.
3. At least one durable recycling container directly to each residential collection service customer.
4. Recycling collection service to multi-family dwelling complexes with five or more units.
5. Residential yard debris collection program for collection and composting of residential yard debris.
6. Regular on-site collection of source-separated principal recyclable materials from commercial generators.
7. Establishment of an expanded system of recycling depots that are conveniently located to the population served.
8. Garbage collection rates established as a waste reduction incentive, including a mini-can option.
9. A collection and composting program for commercial and institutional food waste, non-recyclable paper and other compostable waste.
10. A program that requires commercial generators of solid waste that generate large amounts of recyclable materials to source separate their recyclables.
11. A program for monthly, or more frequent, on-route collection and composting for food and other compostable waste from residential collection service customers.
12. A construction and demolition debris recovery program that educates generators on recovery and reducing waste and requires debris to be source separated at the generation site or sent to a material recovery facility for processing and recovery.
13. A food waste collection program requiring nonresidential generators of large amounts of food waste to source separate the food waste for recovery.

Cities within Metro must implement seven or eight elements. Cities of less than 10,000 people located more than 120 miles from Portland need only provide three. DEQ can also approve alternative recycling programs that comply with administrative rules adopted by the EQC.

IMPORTANT LEGISLATION

The Bottle Bill: In 1971, Oregon enacted the "bottle bill" that has been called the most effective recycling program in U.S. history and is the nation's longest-standing deposit law. Within two years of its implementation, more than 90 percent of all carbonated beverage containers were being recycled and more than 80 percent of the roadside container litter disappeared. Container recovery continues to be much higher in Oregon than in states that do not have bottle deposit laws. The legislature in 2007 expanded coverage of the five-cent beverage container deposit to include water and flavored water beverage containers and created a nine-member Bottle Bill Task Force to study issues associated with beverage container collection and refund. In 2011, the legislature passed House Bill 3145, which expanded the types of beverage containers subject to the deposit, set a trigger for the deposit to increase to 10 cents if the recycling rate falls below 80 percent for two consecutive

years (but not before 2017) and set up a redemption center pilot project. In 2012, the legislature passed Senate Bill 1508 to provide incentives for a more efficient system for distributors to collect empty containers from stores. In 2013, Senate Bill 117 modified the redemption center program by removing its status as a pilot program and authorized the Oregon Liquor Control Commission to approve additional centers. The redemption centers – known as "BottleDrops" – are operated and funded by the Oregon Beverage Recycling Cooperative in partnership with grocery retailers. The first BottleDrop center opened in Wood Village in 2010; in mid-2016 there were 15 redemption centers operating with plans to add four new centers each year until there are 45 locations by 2023.

Recycling Opportunity Act of 1983: This was the first state law in the U.S. to require that people statewide be provided with an opportunity to recycle. This opportunity included curbside recycling collection being provided to garbage service customers in cities of 4,000 or more people, recycling at all disposal sites or more convenient locations, and education and promotion programs to make Oregonians aware of their recycling opportunities and the reasons to recycle. The law also established the statewide hierarchy for managing solid waste, with reduced generation of waste being at the top of the hierarchy, followed by reuse, recycling, composting and energy recovery, with landfilling being the least-preferred method.

Oregon Recycling Act **(ORA)**: In 1991, the legislature enacted Senate Bill 66, which strengthened and broadened recycling requirements. It set a statewide recovery goal of 50 percent by 2000 and interim recovery goals for individual wastesheds by 1995. "Wastesheds" are generally the same geographic areas as counties, except Metro, which comprises Clackamas, Multnomah, and Washington counties, and Milton-Freewater, which is its own wasteshed. However, by the year 2000, Oregon had not met its ambitious recovery goal of 50 percent, although most wastesheds were meeting their individual goals.

In addition, ORA established a household hazardous waste program; required recycled content in glass containers, directories and newsprint publications; set requirements for recycling rigid plastic containers to promote market development; required DEQ to calculate annual recovery rates; required DEQ to develop a solid waste management plan; and funded programs through tipping fees at landfills. It banned discarded or abandoned vehicles, large home or industrial appliances, used oil, un-chipped tires and lead-acid batteries from solid waste disposal sites.

Wasteshed Incentives: House Bill 3456 (1997) provided incentives for governments to establish and maintain programs in waste prevention, reuse and backyard composting – actions with effects that cannot be directly measured by DEQ's material recovery survey. Wastesheds receive a two-percent increase to their calculated recovery rate for each program implemented, allowing a total of six percent if a wasteshed implements all three programs.

Revised Recovery Goals; New Waste Generation Goals: DEQ confirmed to the legislature in 2001 that the original wasteshed goals, in total, would not produce a statewide recovery goal of 50 percent. The legislature responded by unanimously enacting House Bill 3744, which set new wasteshed goals and extended Oregon's statewide recovery goals to 2005 (45 percent goal) and 2009 (50 percent goal). The law also applied two-percent credits for composting programs and reuse programs

towards the statewide recovery rate. Oregon met the 2005 goal of 45 percent recovery, but missed achieving 50 percent recovery until 2010.

In response to the environmental impacts associated with increasing use of materials, as reflected by rising waste generation, HB 3744 also created Oregon's first statewide waste generation goals and established waste prevention goal language. The goal for 2005 was that there be no annual increase in per capita waste generation. For 2009 and beyond, the goal is no annual increase in total waste generation.

Oregon E-Cycles: House Bill 2626, enacted by the legislature in 2007, provides for the statewide collection and recycling of televisions, computers and monitors ("covered electronic devices" or **CEDs)**, as of January 1, 2009. Under the bill, manufacturers of CEDs must either manage their own statewide collection/recycling program or pay into a DEQ-established state contractor program. Any Oregon household, certain small businesses and non-profits and other individuals delivering seven or fewer CEDs can recycle without charge under these programs. Retailers are prohibited from selling CEDs unless the products are labeled with a brand that is in compliance with the new law as of January 1, 2009. As of January 1, 2010, the disposal of computers, monitors and TVs was prohibited in Oregon.

House Bill 3606 (2010) changed the way minimum recycling obligations are calculated for TV manufacturers. In 2011, Senate Bill 82 added printers and computer peripherals to Oregon E-Cycles beginning January 2015 (but not to the disposal ban). This legislation also established a system that allows recycling programs to claim credits for the pounds they collect over their minimum recycling obligation in any year.

Paint Product Stewardship: House Bill 3037 (2009) created a paint stewardship pilot program to reduce the generation of post-consumer paint by promoting its reuse and developing a process of collecting, transporting and processing it in an environmentally sound fashion. The law required the creation of a stewardship organization made up of paint manufacturers to implement the program by developing a plan and funding its implementation, including the development of educational materials for consumers. Under the legislation, consumers are able to take unwanted paint to locations throughout the state for environmentally appropriate recovery and disposal. The program was made permanent in 2013.

Lighting Containing Mercury: Mercury is used in many types of light bulbs because it contributes to the bulbs' energy efficiency and life expectancy. Mercury is a naturally occurring element that is found in air, water and soil, but it can also be toxic to humans. Senate Bill 1512, enacted in 2012, prohibits the sale or distribution of any lighting that contains mercury in amounts exceeding specified standards.

Senate Bill 263 (2015): This legislation modernized Oregon's decades-old recycling and waste prevention laws, in part by offering more ways for cities to comply with state law. The law added new recycling options to the list of program elements that cities and counties are required to choose from, ensured residents and businesses in multi-tenant properties statewide have opportunities to recycle by 2022, and updated statewide waste recovery and generation goals. The law also revised wasteshed recovery rates and

discontinued the two-percent credit requirements. SB 263 also adds new waste prevention and reuse requirements for cities above a certain population size.

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