

Recommendations for Product Stewardship in Oregon

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Quality



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Overview

This report recommends that Oregon pursue product stewardship as a strategy to reduce the environmental and public health impacts of products. It also recommends eight key elements for product stewardship programs and policy in Oregon. This report will help guide product stewardship policy and program development for the Oregon Department of Environmental Quality and may provide a similar resource for local governments, solid waste, environmental and public health interests, industry and other partners.

To help inform this report and broaden understanding of principles and issues surrounding product stewardship, DEQ in collaboration with Metro convened the Oregon Product Stewardship Stakeholder Group, which met throughout 2010. The group included representatives of manufacturers, retailers, recyclers, waste collectors and disposal facilities, environmental advocacy organizations, and state, local and tribal government representatives.¹ Although group discussions helped develop recommendations in this report, the final recommendations are DEQ's.

Product Stewardship

The products we use and consume have significant impacts on public health and the environment across their entire life cycle – from resource extraction and manufacturing to use and disposal. Product stewardship can help reduce those impacts.

Product stewardship is an environmental management strategy where all parties involved in the design, production, sale and use of a product take responsibility for minimizing the environmental impact throughout the stages of the product's life. The greatest responsibility lies with whoever has the most ability to affect the product's life cycle impacts. This typically is the producer.

Product stewardship employs a wide range of tools and mechanisms to influence improvements in product design and reduce public health and environmental effects. Examples include producer collection and recycling programs, restrictions on product ingredients, purchasing guidelines, and product design incentives and goals as well as voluntary design changes by producers.

A successful product stewardship strategy:

- Provides incentives or requirements to reduce adverse impacts associated with product design, manufacture, use, and discard.
- Shifts responsibility for product waste from local governments and ratepayers to manufacturers, retailers and consumers.
- Streamlines state government's role to standard setting and oversight, reducing costs.
- Expands recycling options for consumers.

¹ Members of the stakeholder group and topics discussed are included in Appendix A, page 16 of this report.
Oregon Department of Environmental Quality

Product stewardship can be voluntary or mandatory. Oregon currently uses mandatory product stewardship programs for such products as electronics and paint, and voluntary programs for such things as rechargeable batteries and mercury thermostats.

Key Challenges

Product stewardship can help address two key environmental challenges:

- Reducing environmental and public health impacts of products through all life cycle phases; and
- Managing the increasing volume and complexity of waste products.

Products affect public health and the environment across their entire life cycle – from resource extraction and manufacturing to use and disposal. These impacts, which include resource depletion, air and waterborne toxics, greenhouse gas emissions, and other pollutants, can be significant. For example, the provision of goods in the United States is estimated to account for 42 percent of U.S. greenhouse gas emissions. Products with high greenhouse gas impacts tend to also have high emissions of toxics during resource extraction and manufacturing.

Historically, state and local governments have been responsible for product disposal and have established recycling systems to recover resources and reduce impacts. Oregon's recycling collection and processing systems are among the strongest in the country. However, growth in the types, volumes and complexity of products we consume poses serious challenges to those systems. Products are often composed of many different and sometimes toxic materials, which makes them difficult and costly to manage when discarded. Moreover, taxpayers and ratepayers, who fund our disposal and recycling systems, as well as the local governments mandated to provide them, are increasingly too financially stretched to develop new or enhanced systems to handle these products. While government is responsible for managing discarded products, under traditional solid waste policies it has little ability to drive design changes that would make product disposal easier and less costly. And with no end-of-life responsibility, manufacturers have less incentive to make those design changes, although some do voluntarily.

We are also learning more about how a product's upstream life cycle stages often provide better opportunities for conserving resources and protecting the environment. Upstream stages include resource extraction, manufacturing, distribution and product use. For many products, upstream impacts are much greater than the impacts associated with disposal. Effective environmental protection requires the adoption of a life cycle view of products— one that encompasses both upstream *and* downstream impacts. Taking a comprehensive view helps avoid decisions that optimize one part of the life cycle but worsen the product's overall impacts. It also demonstrates the importance of changing how products are designed, manufactured and used, not just disposed. As noted above, current public policy provides few opportunities to influence design changes upstream. While costs, consumer demand and business innovation drive some upstream changes, product stewardship offers new mechanisms to focus efforts upstream, as well as downstream, to reduce products' impacts.

Product Stewardship – A New Opportunity

Product stewardship provides an opportunity to address both of the key challenges. Product stewardship does this by providing incentives that result in environmental improvements in design and manufacturing and by making producers responsible for end-of-life management of their products. More specifically, product stewardship can 1) incorporate external costs into the cost of doing business, 2) promote product design changes, 3) reduce a product's impacts over its entire life cycle, 4) cover the costs of product collection, transportation and end-of-life management, 5) diversify or expand end-of-life management options, and 6) drive cost efficiencies in product end-of-life management.²

To illustrate, consider the example of consumer electronics, such as personal computers. Personal computers are complex products that place increased demand on solid waste systems. The presence of multiple materials and components that contain toxics make them challenging to manage at end-of-life. Before Oregon's electronic waste stewardship program began operating in 2009, Oregon did not have a collection and processing network that could handle the growing volumes of electronic wastes. Besides end-of-life challenges, personal computers have significant environmental and public health impacts associated with production and use. Production impacts include extraction of natural resources, use of energy and water, and emissions of pollutants. Use impacts are primarily the pollution associated with energy use.

Product stewardship is being applied to improve design and end-of-life management of personal computers to reduce impacts across their life cycle. For example:

- More than 20 states, including Oregon, now have product stewardship laws that shift costs for managing waste electronics from government to producers and expand recycling opportunities for consumers.
- The European Union's RoHS (Restriction on Hazardous Substances) directive limits the use of toxic chemicals in consumer electronics products.
- The Electronic Products Environmental Assessment Tool (EPEAT), a partnership between industry, government and other stakeholders, provides a voluntary certification program that encourages environmental improvements across the entire life cycle of personal computers.
- Japan's Top Runner program sets standards for energy use of personal computers based on best-in-class products on the market.
- Brand owners, such as Dell and HP, engage in voluntary initiatives to reduce their products' impacts.

These examples illustrate how, with producer responsibility, product stewardship can lead to products that have lower impacts on the environment and public health, and to

² Scott Cassel, "Product stewardship: shared responsibility for managing HHW." *Chapter 7, Handbook on Household Hazardous Waste*. 2008.

end-of-life management that meets public needs and increases the recovery of discarded products. This also saves money for local governments – Oregon’s new paint and E-Cycles stewardship programs are expected to save local governments millions of dollars a year while providing expanded services to consumers. Product stewardship is increasingly being applied across the U.S. and the rest of the world to a broad range of products, including paint, automotive products, mercury-containing lamps and switches, batteries, thermostats, carpet and packaging.

Recommendations in this report lay the foundation to address the two key challenges and to guide Oregon in the development of effective product stewardship programs.

Product Stewardship Recommendations

The following are DEQ's recommendations for product stewardship policy in Oregon.

Recommendation: *Product stewardship should be a high priority strategy in Oregon to reduce the environmental and public health impacts of products. Product stewardship policies and programs should incorporate the following eight elements.*

Element 1: *Product stewardship policies and programs should strive to reduce environmental and public health impacts that occur over all phases of a product's life – from design, manufacture, distribution, use, and disposal.*

Element 2: *Producers should be primarily responsible for designing, implementing, and financing product stewardship programs.*

Element 3: *All producers selling a covered product in Oregon should follow requirements established for that product.*

Element 4: *Government should work with stakeholders to set or approve requirements and ensure stewardship programs are open and accountable for meeting those requirements.*

Element 5: *Stewardship programs should include performance measures, require producers to report on those measures, and provide for ongoing program review.*

Element 6: *Stewardship programs for end-of-life management of products should provide convenient, available and statewide collection service for the public.*

Element 7: *Producers, government and retailers should inform consumers about product impacts, including options for responsible end-of-life management of products.*

Element 8: *A product stewardship strategy should establish criteria and a process for selecting products for stewardship policies and programs.*

Application of these elements will be tailored to specific products or product groups and the product stewardship policies and programs being implemented.

Element 1: Product stewardship policies and programs should strive to reduce environmental and public health impacts that occur over all phases of a product's life – from design, manufacture, distribution, use, and disposal.

Product-oriented policies reflect an awareness of – and an attempt to address – the environmental and public health impacts of products throughout their life-cycle. Ideally,

such product stewardship policies establish built-in mechanisms and incentives that minimize these impacts during design, production, transport, use, and disposal.³

A wide spectrum of voluntary and mandatory programs and policies provide opportunities to reduce impacts over the life of products. Examples of product stewardship mechanisms and incentives include:

- Independent, third-party product certification, allowing consumers to use purchasing power to signal manufacturers that the public wants products that are safer, less toxic and easier to reuse and recycle. For example, EPEAT for electronics provides purchasers with third-party certified environmental information to inform their purchasing decisions.
- Toxics reduction requirements, using those adopted in other states and countries. For example, California employed the European Union restrictions on hazardous substances (RoHS) directive for electronics and electrical equipment.
- Government and institutional procurement requirements related to environmental and health attributes of products. For example, Maine's procurement standard for mercury lamps requests product information and requires purchasing decisions that favor models at comparable cost with higher energy efficiency, lower mercury content and longer lamp life.
- Producer incentives or requirements to evaluate the environmental "footprint" of their product. For example, Wal-Mart requires suppliers to provide product and packaging evaluations.
- Consumer education regarding purchase and use of a product. For example, the Oregon Paint Product Stewardship Program uses a paint calculator to help consumers determine the amount of paint needed.
- Producer responsibility for managing a product at end-of-life. By taking responsibility, industry diverts toxic materials from disposal, increases recycling, and makes more effective use of resources. For example, Oregon E-Cycles requires manufacturers of computers, monitors, and televisions to provide environmentally sound collection and recycling programs for the products they sell in Oregon.

Appendix F, *Swimming Upstream*, describes many of these and other mechanisms and how they can reduce environmental impacts.

Stakeholder discussion and outstanding issues::

Most of the stakeholders indicated interest in and support for addressing the environmental and health impacts associated with the life of a product including its design and manufacture.

³ David Stizhal, *Swimming Upstream: Product Stewardship and the Promise of Green Design*. 2010 Oregon Department of Environmental Quality

- *Exploring how to use product stewardship policy effectively at the state level and in partnership with other state, regional and national efforts, is an important objective for future policy development.*
- *Producers in many instances are already making improvements to lower environmental and health impacts of their products, for example, reducing mercury in compact fluorescent bulbs or designing new lighting technologies with lower environmental and public health impacts.*
- *Use of substance restriction mechanisms, like RoHS, is most effective when it also takes into account such things as availability of substitute materials and the need for exemptions in some circumstances.*
- *Product stewardship may not always address both upstream and downstream impacts. For example, some situations and products may focus on product design and manufacture; others may focus on end-of-life management.*

Element 2: Producers should be primarily responsible for designing, implementing, and financing product stewardship programs.

A principal reason for allocating primary responsibility for product stewardship to producers is their unique capacity to change the design of products to reduce impacts throughout their life-cycle. Producers decide the features of their products at the design phase – where they can determine holistically the most cost-effective ways to reduce impacts, avoid unintended consequences, and achieve performance standards and goals. Making producers financially responsible also allows economic signals to help drive design change and allows producers to compete on improving their environmental footprint, rather than on cost and performance alone.

Producers should have the flexibility to implement product stewardship programs individually, jointly with other producers, through stewardship organizations or through industry-wide organizations. Those producers and organizations determine how costs should be allocated among participating producers.

In concept, producers can finance their costs in multiple ways. Most product stewardship programs in the US internalize those costs as a cost of doing business, known as cost internalization. Some use other mechanisms such as a producer fee added to the price of the product or a deposit-refund mechanism as in Oregon’s beverage container law.

Cost internalization is often the most straight forward financing mechanism and requires few if any government resources, but financing can be considered on a product-specific basis. Under any mechanism, consumers should not pay a fee at the time the product is discarded. End-of-life fees can be a significant barrier for consumers to return products and can encourage illegal disposal.

Stakeholder discussion and outstanding issues:

Some stakeholders had concerns about shifting the cost of stewardship programs primarily to producers.

- *Internalizing end-of-life costs alone may not cause producers to change their products to reduce impacts.*

- *Situations where a producer's costs are too high relative to the price of the product could keep the product from the market.*
- *Long product supply chains can make it too difficult to identify producers and hold them responsible – other parties may need to share responsibility.*
- *Cost internalization may not be as simple and straightforward in some industry sectors as in others.*
- *The cost to the consumer of implementing a product stewardship program should be considered.*

Element 3: All producers selling a covered product in Oregon should follow requirements established for that product.

Mandatory product stewardship programs should provide a fair and transparent system that ensures all parties involved comply with the requirements for the covered product. Requirements may vary for different products or groups of products. Full producer participation and compliance establishes a level playing field so that no producer gains an unfair advantage over others selling products in Oregon. Full participation is also important for achieving goals for reducing impacts of products.

Most product stewardship laws ensure a level playing field through sales restrictions that prohibit producers and retailers from selling covered products in a state unless the producers are participating in an approved program or otherwise complying with the law. The laws also typically provide penalties for noncompliance. Product stewardship programs that rely on incentives or other voluntary actions do not require full producer participation.

Stakeholder discussion and outstanding issues:

Stakeholders generally agreed that any mandatory product stewardship should require that all producers involved meet the same requirements, i.e. a level playing field.

- *Product stewardship programs that impose requirements on producers need to be structured with adequate oversight and safeguards to ensure no one has a competitive advantage in Oregon by not complying with the requirements.*

Element 4: Government should work with stakeholders to set or approve requirements and ensure stewardship programs are open and accountable for meeting those requirements.

Government's role in mandatory product stewardship programs is primarily to work with stakeholders to set requirements and to provide oversight to ensure requirements are met. This role is different from traditional regulatory programs where results are driven by prescriptive regulation and permits. In product stewardship, government sets the performance requirements and then allows producers the flexibility to decide how to achieve them. Government oversees performance to ensure producers are accountable.

Oversight is often provided through plans. Product stewardship programs frequently direct producers to submit a plan to the oversight agency describing how the producer will meet the established requirements. The agency oversees compliance with the plan. Oregon E-Cycles and the Paint Product Stewardship programs both require producer plans.

For some product stewardship programs, producers can comply with established incentives, requirements or performance measures without the need for a state-approved plan. Often these programs focus directly on product design or manufacture, such as the requirement for a particular certification label such as Green Seal.

A key requirement of many product stewardship programs is the responsible management of products at end-of-life to ensure environmental protection and worker safety. Sound management practices are often addressed in producer plans. Even without such plans, persons managing waste products must comply with applicable laws protecting worker safety, public health and the environment.

Stakeholder discussion and outstanding issues:

Many stakeholders agreed that government oversight, through plans or other appropriate mechanisms, is important to ensure accountability.

- *Flexibility to adjust requirements and plan elements as experience is gained with program implementation is important regardless of what oversight mechanisms are used.*
- *Producers and other stakeholders should be involved in program development. Stakeholders should also have the opportunity to be involved in development of producer plans when those are required.*
- *When producers engage waste handlers (including collectors and processors) to provide services under a plan, producers should be required to ensure those service providers meet the management practices required in the plan. Government should also provide oversight for those service providers.*

Element 5: Stewardship programs should include performance measures, require producers to report on those measures and provide for ongoing program review.

Performance measures focus product stewardship activity and provide a mechanism for program management, oversight, accountability, and measuring achievements. Measures are set on a product-specific basis, taking into consideration the priority concerns related to the product. It is important that performance measures are structured to achieve priority outcomes. Since measuring performance relies on baseline data, measures may also need to allow for data collection and evaluation in the early stages of a program to set informed performance measures.

Possible unintended consequences also need to be considered in setting performance measures. For example, measuring the amount of material recycled by weight alone could penalize a manufacturer who light weights a product to achieve greater benefits than recycling.

Performance measures are intended to influence the most important outcomes, from product design and manufacturing improvements to end-of-life recovery of materials. For end-of-life management, a common performance measure is achievement of collection rates by established dates. Rates can be expressed as a percent of amount generated or sold into the market. Examples of performance measures for product design and manufacturing improvement include adoption of RoHS or other product content standards, documented reductions in life-cycle impacts, or the provision of product content information.

A performance measure for the Oregon E-Cycles program is collection of at least the minimum amount by weight established for collection each year. DEQ determines that annual amount based on expected need for collection services, changes in product weights (e.g., light weighting or optimizing product design to use less material), and other factors.

In addition to measuring performance, product stewardship programs should include evaluation for ongoing improvements as they are implemented. Structured program evaluations provide information for improving and modifying programs over time. The experience and lessons learned also inform the development of new programs.

Stakeholder discussion and outstanding issues:

Most of the stakeholders agreed on the importance of performance measures in product stewardship programs.

- *Providing for adjustments to performance measures is important as information is collected and evaluated early in program development or as priorities change.*
- *Producers and others affected by the performance measures should be included in the development of the measures and the reporting process.*
- *Holding a producer or other party to performance requirements over which they have no control is a concern. For example, producers may object to a performance measure that requires them to collect a set quantity of material because they cannot control consumers' use of the collection systems they provide.*

Element 6: Stewardship programs for end-of-life management of products should provide convenient, available and statewide collection service for the public.

Collection of unwanted products for reuse, recycling or safe disposal is often the most visible aspect of a product stewardship program. The convenience of those collection locations strongly affects the public's willingness to return products and their satisfaction with a program. In defining "convenient, available, and statewide" service, the challenge is to balance convenience for the public with the need to operate a cost-effective system.

What constitutes convenient, available, statewide service will depend on the type of product, the need for consumers to return products, and the infrastructure proposed for collection. Experience in Oregon and other states suggest a standard should be established that specifies minimum service coverage, ensures the service is available on a regular basis throughout the year, and provides service statewide in urban and rural areas, recognizing service may not be the same in both areas.

For example, the Oregon E-Cycles law imposes four collection service requirements on manufacturers: manufacturers must provide "convenient service" in each county; they must provide at least one collection site for any city with a population of at least 10,000; collection sites must be staffed and open to the public at an appropriate frequency; and producers must promote collection year-round.

Stakeholder discussion and outstanding issues:

Stakeholders agreed that collection standards are necessary and important, but were concerned about how those standards would be implemented.

- *Safety and environmental protection needs to be ensured, particularly when producers choose to develop collection networks that do not rely on existing local government and industry infrastructure.*
- *Curbside collection is the most convenient for most households and consumers. However, some products cannot be collected curbside for safety and logistical reasons (e.g., toxic or bulky products).*
- *Producers should be urged to consider using existing collection and processing infrastructure where it makes cost and environmental sense, e.g. using an existing local collection network may be less costly than creating an entirely new one.*
- *A collection system that serves the consumer well will help avoid the environmental harm and cost associated with illegal disposal.*
- *Priority should be given to collection opportunities in communities that are in proximity to salmon bearing waterways.*
- *Equity between rural and urban areas will need close attention. The existing product collection infrastructure in rural areas may be sparse. Augmenting that collection could be expensive for producers.*
- *Balancing the cost with the benefit of convenient collection may be more challenging in rural areas. This is of particular concern to consumers who pay for statewide collection service directly or indirectly, but lack convenient collection.*

Element 7: Producers, government, and retailers should inform consumers about product impacts, including options for responsible end-of-life management of products.

Consumers have two roles in product stewardship: to make informed purchases of products to minimize environmental and health impacts, and to use the collection system provided when they are ready to discard products.

To effectively perform their role, consumers need timely, easily accessible information. Producers have a responsibility to provide product information to consumers so they can make informed choices. Government shares responsibility to conduct, support, or oversee outreach and education for consumers to ensure that information is timely, complete, and effectively distributed.

Retailers also have a key role to provide information to the consumer about what to do with the product when the consumer is ready to discard it. Retailers may also share responsibility for informing consumers about products and how to reduce impact during their use.

Stakeholder discussion and outstanding issues:

Stakeholders generally agree educating and informing consumers about product life-cycle impacts and options for end-of-life management is an important element of product stewardship.

- *Consideration needs to be given to the costs associated with education and outreach programs and how those costs are covered.*
- *Effectiveness of consumer outreach needs to be determined so that adjustments and improvements can be made.*

Element 8: A product stewardship strategy should establish criteria and a process for selecting products for stewardship policies and programs.

To date, the products in Oregon covered by product stewardship policies and programs have been identified based on response to public demand for collection services, financial burdens on local waste management programs, availability of successful product stewardship models, and readiness of partners. These are valid reasons for selecting products, but a more systematic approach for comparatively evaluating and selecting products is needed to enable product stewardship policies and programs to focus on products where the greatest benefits are likely to be achieved.

Product selection should include a technical screening and evaluation process to recommend priority products and product groups to policymakers based on established criteria. The process should be open and transparent and include stakeholder involvement.

At a minimum, selection criteria should provide a method for evaluating the impacts on environment and health that occur in all phases of a product's life cycle; the potential for reducing those impacts; and the cost to consumers, producers, and local governments. Criteria might also include such things as current or potential contribution to the waste stream, public demand, the ability of the producer to implement a program, and product stewardship programs being implemented elsewhere.

A systematic process will also support effective and efficient use of resources and technical expertise to provide analysis for informed policy decisions. Without such a process, recommendations for products and policy approaches come to the legislature from varied sources and may divert limited resources to proposals that may not be environmental or public health priorities.

Stakeholder discussion and outstanding issues:

Most stakeholders supported the need for criteria and a system for selecting products that address priority environmental and public health concerns. But they did not have time to explore this topic in depth and did not have specific recommendations for a process for product selection. In reviewing possible criteria for product selection, their interest centered on the opportunity to reduce environmental impacts. Lesser emphasis was placed on political and other criteria.

- *Toxic chemicals identified as priority by the state and greenhouse gases should be factors considered in product selection.*
- *The selection process should be open and transparent with appropriate roles defined for the legislative and executive branches of government.*
- *A defined process is needed for product selection.*
- *A diverse range of products of interest including mercury lamps, solar panels, film plastic, automobiles, appliances, carpet, and mattresses was put forward by various stakeholders for possible future discussion and evaluation*

Next Steps for DEQ

The continued development of product stewardship policy for Oregon includes the following for DEQ:

- Work with stakeholders to develop a strategy for future product selection, including a process and criteria.
- Work with stakeholders to develop strategies for employing incentives and other mechanisms to address the upstream life cycle impacts of products.
- Consider key elements in developing product stewardship programs.
- Evaluate the effectiveness of current product stewardship programs and use the information to improve programs.

Appendices

- A. [Oregon Product Stewardship Stakeholder Group Summary of Meetings. By Oregon DEQ, 2010.](#)
- B. [Review of Product Stewardship Programs. By Kelly Panciera, Oregon DEQ, April 2010.](#)
- C. [Product Stewardship and Producer Financing Approaches. By Scott Klag, Oregon Metro, April 2010.](#)
- D. [Convenience Standards in Product Stewardship Programs, By Jan Whitworth, Oregon DEQ, April 2010.](#)
- E. [Disposal Bans and Product Stewardship. By Jan Whitworth, Oregon DEQ, April 2010.](#)
- F. [Swimming Upstream: Product Stewardship and Promise of Green Design. By David Stitzhal, MRP, Full Circle Environmental, Inc.; funded by Oregon Metro Resource and Recycling, May 2010.](#)
- G. [Performance Measures in Product Stewardship Programs. By Jan Whitworth, Oregon DEQ, July 2010.](#)
- H. [Selecting Products and/or Materials for Product Stewardship Programs. By Abby Boudouris, Oregon DEQ, July 2010](#)

Resources/References

The list below represents selected resources that were consulted in the preparation of this document and provide additional background on the topics covered. Additional resources can be found at www.deq.state.or.us/lq/sw/productstewardship/

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Product Stewardship Stakeholder Group Members

- Emily Ackland, Association of Oregon Counties
- Pamela Brody-Heine, Zero Waste Alliance and EcoStewardship Strategies
- Duke Castle, Natural Step Network, The Castle Group
- Paul Cosgrove, Lindsay, Hart, Neil & Weigler, LLP
- Jim Craven, TechAmerica
- Katy Daly, Recycling Advocates
- Betsy Earls, Associated Oregon Industries, Retail Council
- Kathy Frevert, California Department of Resources Recycling and Recovery (CALRecycle)
- Renee Hackenmiller-Paradis, Oregon Environmental Council
- Brenda Hoppe, Oregon Public Health Division
- Mark Kohorst, National Electrical Manufacturers Association, Association of Electrical Medical Imaging Equipment Manufacturing (NEMA)
- Matt Korot, Oregon Metro
- Craig Lorch, Total Reclaim (replacing Andy Sloop)
- Frank Marella, Manufacturers Recycling Management Company, Sharp Electronics, Consultant
- Michael Mason, Confederated Tribes of the Warm Springs Reservation of Oregon
- Jeff Murray, Far West Fibers
- Garry Penning, Oregon Refuse & Recycling Association, Rogue Disposal
- Wayne Rifer, RBRC, EPEAT, Rifer Environmental
- David Skakel, Tri County Hazardous Waste & Recycling Program, Wasco County
- David Stitzhal, Northwest Product Stewardship Council, Full Circle Environmental
- Jay Shepard, Washington Department of Ecology
- Andy Sloop, Total Reclaim/EcoLights Northwest
- Kara Steward, Washington Department of Ecology (replacing Jay Shepard)
- Kristen Stiegler, Oregon Public Health Division (replacing Brenda Hoppe)
- Bruce Walker, City of Portland
- Wendy Wiles, Oregon Department of Environmental Quality
- Rick Winterhalter, Association of Oregon Recyclers, Clackamas County