



**DATE:** June 14, 2018

**TO:** Programs & Administration Committee

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**SUBJECT:** Circular economy principles for materials management

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## **SUMMARY**

At its May 23, 2018 meeting, the WMA Board adopted a process and timeline for its fall Priority Setting, which will update guiding principles to inform the Agency's focus, work plan and budget for the next two years. This report and presentation on Circular Economy Principles are the first in a series of presentations to provide context and background for a thoughtful decision-making process.

## **DISCUSSION**

In its 2016-2018 priorities, the Board adopted a guiding principle that *StopWaste's non-mandatory projects will emphasize waste prevention over management of discards*. Based on this direction, the Agency shifted its focus more towards waste prevention, which addresses reducing and reusing materials as well as decisions made farther "upstream" in the supply chain to redesign products and systems to maximize material efficiency and recovery. This direction toward a deeper waste reduction is captured by the concept of a circular economy.

### Circular Economy

Recent trends indicate a readiness in the market and industry for innovative solutions that focus on strategies higher on the material management hierarchy with product redesign, reduction, reuse and repair. These strategies increase the economic utility and productivity of materials consumed.

In the traditional waste management system, materials move through a take-make-dispose linear model where they are manufactured from raw resources, consumed and ultimately, sent to landfill. A circular economy aims to eliminate waste and "close the loop," not only by addressing what is done with materials coming out of the economy, but by influencing materials throughout their lifecycles.

Guiding principles that govern the circular economy framework include:

1. Design out waste and pollution.
2. Keep products, components, and materials at their highest value and in use.
3. Regenerate natural systems.

Circular economy principles are not all new concepts, but they are receiving renewed attention from the business community and other government entities. For example, Oregon's Department of Environmental Quality (ORDEQ) found that despite their great strides towards recycling and proper waste management practices, total consumption continues to grow and total waste disposal has not decreased. ORDEQ has shifted its focus to materials management across the full life cycle of materials and products, which also addresses upstream lifecycle greenhouse gas emissions and other environmental impacts. Other indicators of this trend include ICLEI's 2018 World Congress agenda that sets forth circular economy as one of five pathways to achieving sustainability in cities, and leading brands, retailers, and packaging companies announcing commitments to 100% reusable, recyclable, or compostable packaging by 2025 through the Ellen MacArthur Foundation's Circular Economy 100 network.

The circular economy framework presents upstream solutions to prevent waste while offering co-benefits including:

- **Resiliency** to address market disruptions (China's National Sword), and supply chain limitations.
- **Economic opportunity and innovation** for local businesses and organizations to create repair/refurbish, resale/reuse, and sharing models.
- **Reduced lifecycle environmental impacts** related to the extraction and production of virgin materials. Also addresses community exposure to toxic chemicals, aiming to design them out of the system.

Below is a snapshot of the work currently in progress at StopWaste that lends itself to the concept of circularity within the various topics areas: organics, packaging and built environment.

### Organics

The organics team has shifted significant program resources in its non-mandatory projects from a focus on separating food waste into the green bin to preventing waste of food. Examples include the Stop Food Waste media campaign; outreach and technical assistance to business, community, and schools; and food rescue and recovery pilots currently underway that redistribute surplus food to food-insecure individuals in the county.

The compost and mulch project focuses on closing the organics cycle to ensure biological nutrients are returned to beneficial use in agriculture and landscaping, providing multiple benefits, including soil and crop resiliency, carbon sequestration, and local economic opportunities.

The organics team has also been working on identifying and addressing sources of contamination in the organics stream such as food service ware, and improving compost quality.

### Packaging

StopWaste has for several years emphasized reusable packaging to reduce the need to produce and consume new packaging materials. Initiatives include the Reusable Bag Ordinance, Reusable transport packaging project, and Rethink Disposables campaign supporting food service establishments switching over to reusable food ware.

StopWaste's packaging team provides technical assistance to brand owners and packaging developers. The assistance includes guidance on the How2Recycle label, and designing for circularity and lower lifecycle impacts. Emerging potential focus areas include e-commerce packaging and meal kits, which both represent a growing source of wasted packaging.

### Built Environment

StopWaste's Built Environment projects also influence multiple stages in the materials lifecycle. Work on green building and landscaping ordinances, CALGreen codes, and rating systems like LEED and GreenPoint Rated influence the design and build stage; the Recycled Product Purchasing Project addresses purchases during a building's use phase; and the construction and demolition (C&D) project recovers materials at the building's end of life.

To identify additional opportunities, StopWaste has recently completed a primer that will help its member agencies and other local governments understand how circular economy principles apply to the built environment. The primer presents circularity strategies at four scales where local governments play a role: community, building, component, material; with an emphasis on optimizing use of the existing built environment.

StopWaste has begun knowledge sharing among member agency staff and industry partners to promote concepts of designing buildings for disassembly, reuse, and lower embodied carbon.

### Grants to Nonprofits

The focus of this year's grants to nonprofits is repair/reuse, which targets organizations that are important to waste prevention in the county. Ten of the 13 grants were awarded to organizations that are an important part of developing a more robust local circular economy in Alameda County - leveraging our grant funds to support worthy reuse and repair projects.

### Upcoming Opportunities to Engage

On October 15-16 in Oakland, the Ellen MacArthur Foundation is hosting its semi-annual Acceleration Workshop of Circular Economy 100 members, a global network of corporations, academic institutions, and governments advancing circular economy. StopWaste has been an EMF member since 2017, and will help organize the workshop. StopWaste board members and other elected officials from around the Bay Area will have opportunities to participate in the workshop.

## **RECOMMENDATION**

This item is for information only.