



Policy Options to Drive Circularity in the Textiles Industry

CalRecycle Textiles Workshop

December 3, 2019

Dr. Joanne Brasch, PhD

- Textile Economics and Environmental Analysis
- 10+ years lecturing on topics of textiles at UC Davis, Donghua University, and CSU Sacramento

Research areas:

Textile Innovation

Industrial Ecology

Circular Economy

Supply-System Sustainability



Pictured: (*left*) Testifying at the Senate Health Committee in support of SB 424 addressing tobacco waste, including Acetate cigarette filters and (*right*) Research at UC Davis Health System on medical textile waste.

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First row:

Justin Weiss, Nate Pelczar

Second row:

Doug Kobold, Joanne Brasch

Third row:

Jordan Wells, Heidi Sanborn

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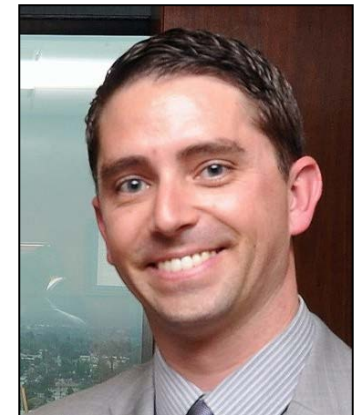
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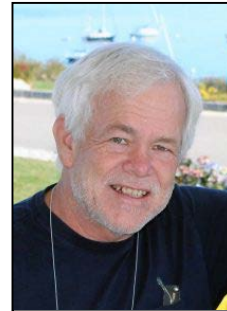


Eric Potashner, Recology



Wes Nelson, GreenWaste Carpet Recycling

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Thank you Cities, Counties, Districts, and JPAs!

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CPSC Mission – Goals of EPR

To shift California's product waste management system from one focused on government funded and ratepayer financed waste diversion to one that relies on producer responsibility in order **to reduce public costs and drive improvements in product design that promote environmental sustainability.**

Strategic Directive 5

February 2007



CalRecycle will ...

- “Seek statutory authority to foster cradle-to-cradle producer responsibility.”
- “Develop relationships with stakeholders that result in producer-financed and producer-managed systems”

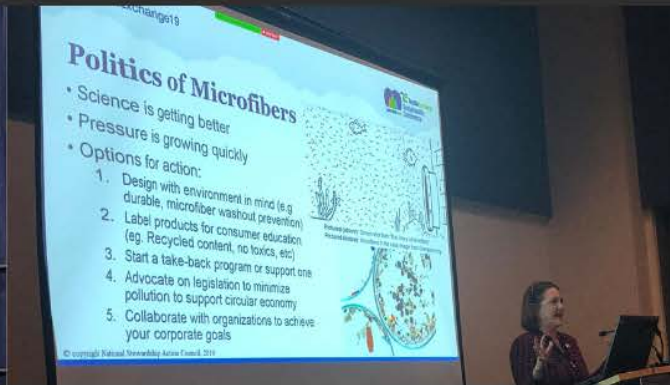
National Stewardship Action Council



NATIONAL
STEWARDSHIP
ACTION COUNCIL
ADVOCATING FOR A CIRCULAR ECONOMY



TextileExchange
Sustainability
Conference



PRESENTED ON THREE PANELS AT THE CONFERENCE:

**RECYCLED
POLYESTER**

MICROFIBERS

**CARPET
PLENARY**

Textile Management Problems

1. Large volume of textile waste
2. Inability to identify and sort by polymer
3. Lack of recyclability
4. Need for collection and recycling investment
5. Hazardous substances are present in the textiles (i.e. PFAs and silver)
6. Microfiber and chemical washout
7. E-waste and lithium ion batteries in wearable technology



Pictured:
examples
mis-
managed
textiles
waste

Textile Collection Infrastructure

What's Needed? Who's going to pay for it?



Pictured (above): Ancient papermaking using reused fibers required grading and sorting cotton and linen rags according to quality, breaking down fabrics to fibers, and recycling into paper. Image credits: stlcc.edu

What's left after high-value garments are diverted?



**Single and
Mismatched**



**Stained/Ripped
Garments**



**Protective
Clothing**

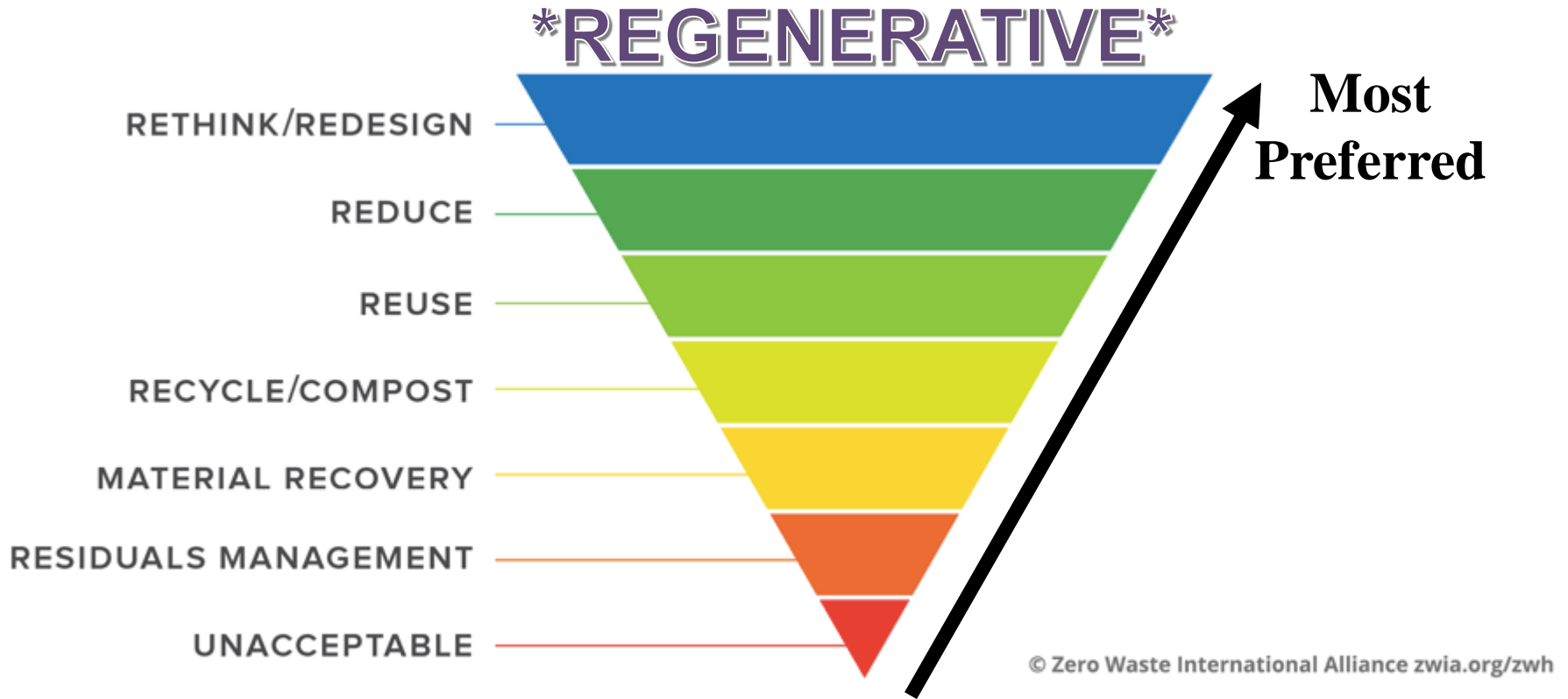


**Industrial
Fabrics**

WHAT POLICIES WOULD DRIVE A CIRCULAR ECONOMY FOR TEXTILES?

Goals of Policy Intervention

Waste Hierarchy



- Source reduction includes **reducing toxics!**
- Design for recyclability is not enough, **regenerative practices** needed
- Implement **producer responsibility** (Voluntary or Mandatory)

Voluntary Industry Group Policy



Textile Exchange Goal (2019):
35-45% reduced CO2 emissions
from textile fiber and material
production by 2030.

Achieving the 2030 Strategy: Climate+ goal will require strong partnerships to accelerate adoption of existing tools as well as enable disruptive innovation around new business models and zero carbon materials.

Mandated Textiles Collection- Canadian Examples



Municipality of Colchester- Curbside textiles collection began May 2016

City of Markham- First municipality in North America ban textile waste at the curb in April 2017

City of Halifax- City controlled collection bins

Partnership Program- King County, WA



CPSC
California Product
Stewardship Council



Give *all* your clothes, shoes and linens
for reuse or recycling

Threadcycle partners

These Threadcycle campaign partners regularly accept nearly *all* clothes, shoes, and linens for reuse or recycling:



Big Brothers Big Sisters
Puget Sound

Goodwill
Because jobs change lives

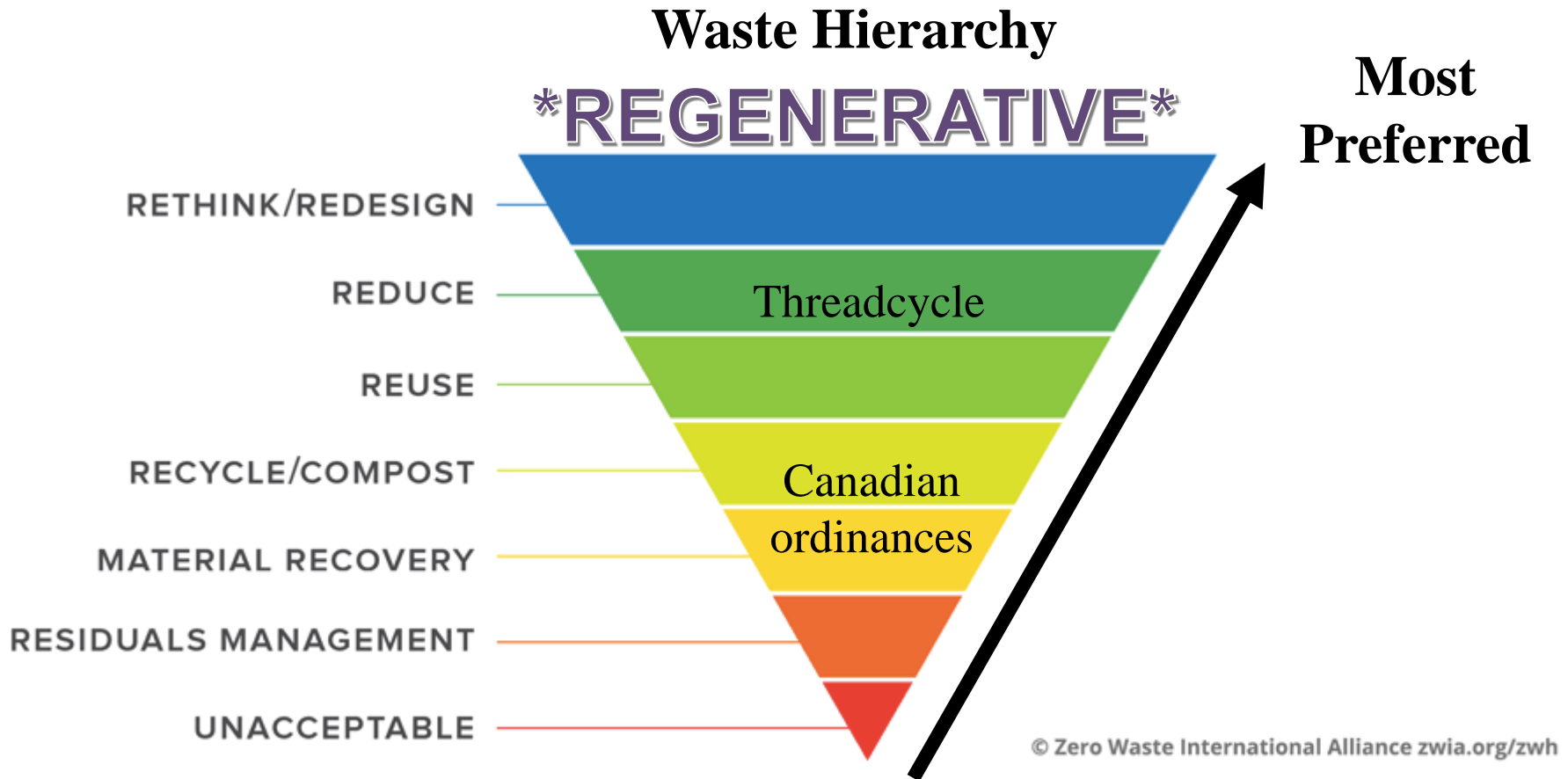


Northwest Center
People of all abilities



**Collection and recycling are expensive,
source reduction is needed**

Where do these policies fall on the Waste Hierarchy





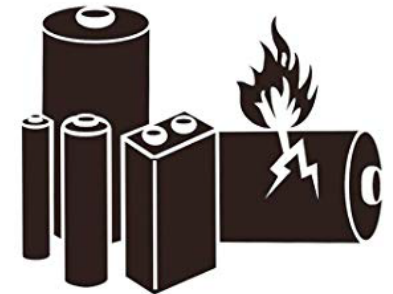
Recycling Isn't Enough ... and it's expensive

INCREASING CONSUMPTION: New styles at low purchase price (with externalized costs), with 52 micro-seasons per year with **less utilization per garment**.

OPPORTUNITY: Come together and focus on the need to **cut consumption** and **prevent waste** in the first place.

Textiles Policies Under Discussion

1. Microfiber washout prevention and capture
(CA- AB 129 and 2379, BLOOM)
2. Mandatory apparel takeback
3. Recycled-content standards
4. Improved labeling for accurate sorting
5. Bans on curbside collection and landfilling
6. Eco-modulated fees (Visible, based on Enviro attributes)
7. Mandatory recycling
8. Banning per- and polyfluoroalkyl substances (PFAS) and other toxics
9. Bills on E-waste and lithium ion batteries could affect wearable technology



Politics of Microfibers

Science is getting better
Pressure is growing quickly

Options for action:

1. Design with environment in mind
(e.g. durable, washout prevention)
2. Advocate on legislation to
minimize pollution to support
circular economy
3. Collaborate with organizations to
achieve your corporate goals

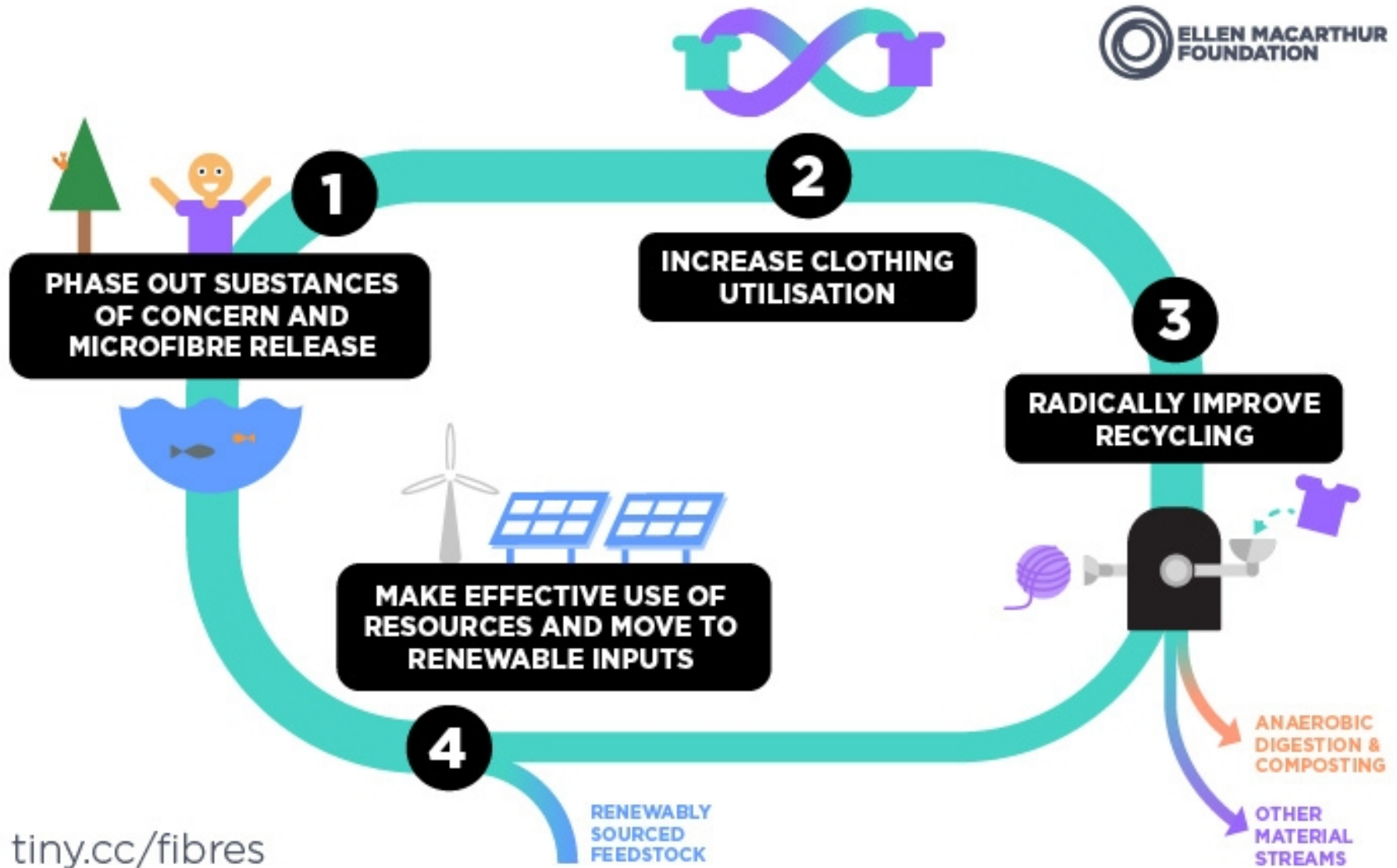


Pictured (above): Screen shot from “The Story of Microfibers”

Pictured (below): Microfibers in the sand image from Greenpeace.org



Ellen Macarthur Foundation (November, 2017)



What Can You Do and How We Can Help?

Partner with CPSC!



1. Design with Environment in Mind (e.g durable, less resources)
2. Use sustainable fibers
3. Label products for consumer education (eg. Recycled content, toxics)
4. Start a Take-Back program or support one
5. Collaborate/advocate on legislation to support circular economy
6. Support associations that support good policies

TOGETHER WE CAN DO ANYTHING!

Thank You!



Joanne Brasch, PhD
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CPSC



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Stewardship Councilsm

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