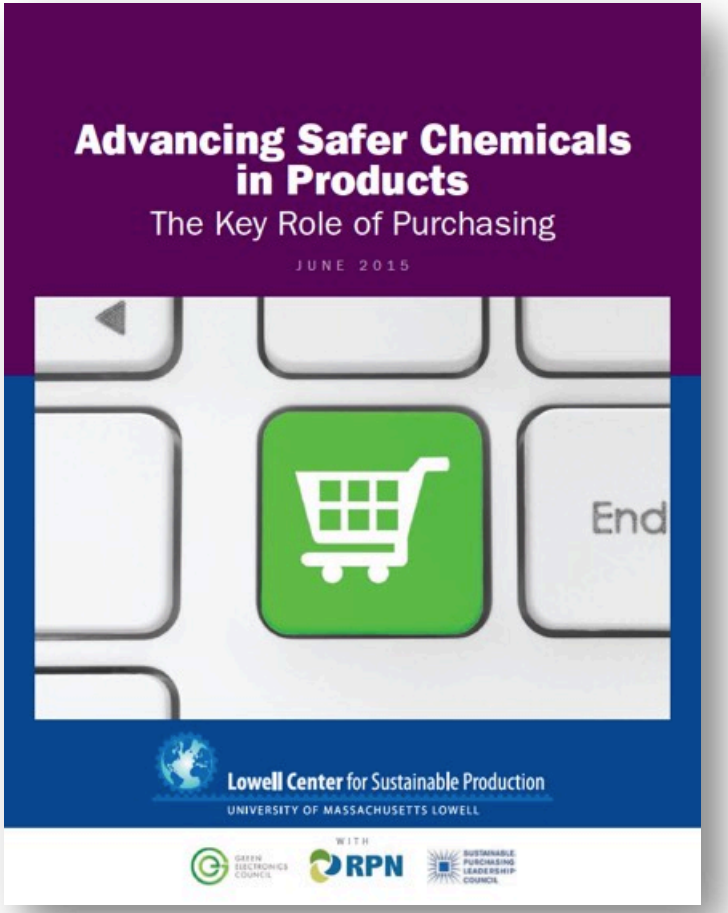
Strategies and Tools for Purchasing Products with Safer Chemistries

September 30th, 2015



The session will begin shortly.

Everyone is muted by default.

www.sustainablepurchasing.org/saferreport

This webinar is presented by

GREEN ELECTRONICS COUNCIL

Lowell Center for Sustainable Production
UNIVERSITY OF MASSACHUSETTS LOWELL

RPN
Responsible Purchasing Network

SUSTAINABLE PURCHASING LEADERSHIP COUNCIL

Opportunity

Institutional purchasers send a powerful economic signal that focuses the forces of market innovation.

Challenge

Purchasers lack shared resources to build a robust strategy and avoid duplication of effort.

Suppliers face multiple, "different but similar" market signals as they seek to differentiate their offerings.

Solution

A **shared program** provides a framework for leadership action and aligns market innovation for a positive future.

Presentations

Amy Perlmutter
Lead Report Author
Perlmutter Associates

Colin Price
Director of Market Innovation
Oregon Environmental Council

Mary Dickinson
Regional Sustainable Design Leader
Perkins+Will

Alicia Culver
Director
Responsible Purchasing Network

Sarah O'Brien
Director of Global Stakeholder Engagement
Green Electronics Council

Moderator

Sam Hummel
Director of Outreach
& Operations
SPLC

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Learning Outcomes

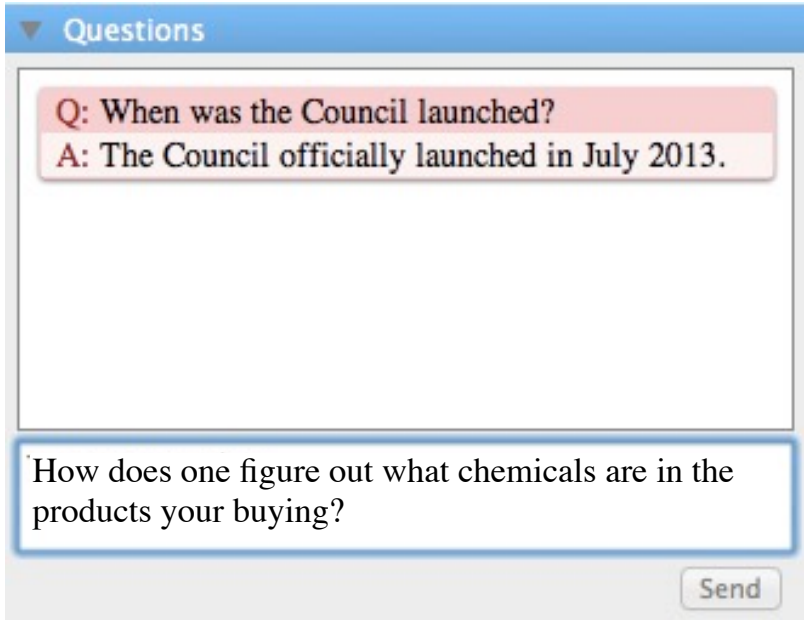
- Key lessons from the report, including how pioneering purchasers are driving the market towards safer chemistry.

- Simple, actionable steps that purchasers can take today to get started

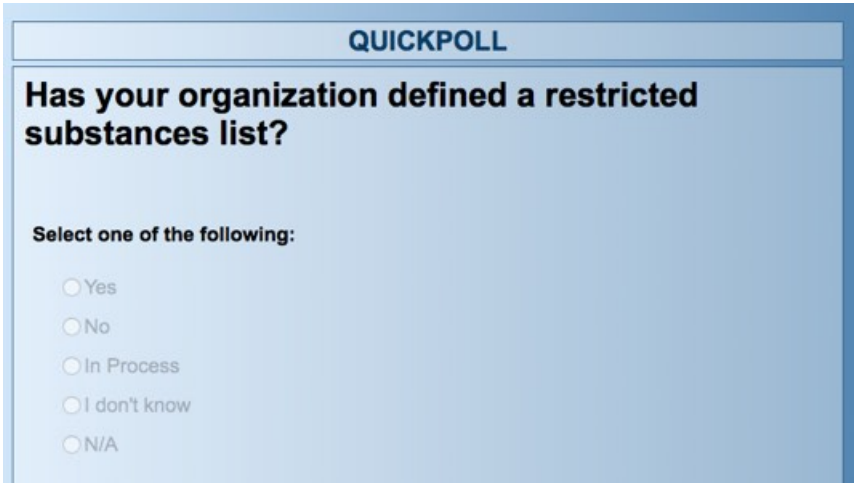
- Tools and resources that can help purchasers move from basic actions to more comprehensive safer product purchasing over time

Audience Participation

1 Submit a question at any time.



2 Respond to poll questions.



Recording

This session is being recorded.

The recording and slides will be sent to all registrants and posted online within 24 hours.

Poll Question #1

Has your organization developed a toxics use reduction policy for purchasing?

1. *Yes*
2. *No*
3. *In Process*
4. *I Don't know*
5. *N/A*

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Advancing Safer Chemicals In Products

The Key Role of Purchasing

Prepared for the Lowell Center for Sustainable Production, UMass Lowell

by

Amy Perlmutter, Perlmutter Associates

Lowell Center for Sustainable Production

The Lowell Center for Sustainable Production

Mission

Develop, study, and promote systems of production and consumption that are safe, healthy, environmentally sound, economically viable, and socially accountable.

Purpose of Project:

To help purchasers move the market towards products with safer chemistries

Project Co-Sponsors

- Green Electronics Council
- Responsible Purchasing Network
- Sustainable Purchasing Leadership Council

Report Content

- The Case for Purchasing Safer Products
- The Key Role of Purchasing in Driving the Availability of Products With Safer Chemistries
- The Advantages and Disadvantages of Product Certifications
- How Six Leading Organizations Are Purchasing Products With Safer Chemistries
- Resources and Tools

Six Cases

1. Kaiser Permanente
2. Seattle City Light
3. Coop
4. The National Institutes of Health
5. Oregon Environmental Council
6. Perkins+Will

Cases Include:

- Program Overview
- Drivers
- Chemicals Targeted
- Partnerships
- Keeping Up With Changing Science
- Tracking Progress
- Lessons Learned

Kaiser Permanente

- Supplier Sustainability Scorecard
- Chemical disclosure on infant skin care products and mattresses
- Multi-disciplinary Safer Chemicals Working Group
- Targets products based on known chemicals of concern (e.g., fragrances in infant care products) and/or the potential for exposure (e.g., DEHP in IV bags)

Seattle City Light

- Policy to reduce the use of hazardous substances, phase out the use of products that pose human health or environmental risks, and increase the use of less harmful alternatives
- Avoids carcinogens, ozone depleting, reproductive hazards, global warming gasses, etc
- 9-step process for choosing products with safer chemistries

Coop

- Works with suppliers to eliminate endocrine disruptors and other chemicals of concern in products sold in its stores
- Covers all 3,000 products in company's three private labels as well as brand named products
- Goals include securing the highest level of safety for the consumer and environment, and maintaining Coop role as first mover in the market

The National Institutes of Health

- Developing automated process to screen for 350 SOCs and make purchasing safer products easier
- Covers products purchased directly or that are contained or released by a service or product anywhere throughout its life cycle
- Part of larger effort in federal Sustainable Acquisition

Perkins+Will and Oregon Environmental Council

- You'll hear about today

Common Themes:

- Understanding potentially harmful substances in the products purchased, and setting priorities;
- Creating strong policy based on these priorities, from which specifications flow;
- Setting goals and tracking progress;
- Encompassing a broad range of chemicals and products;
- Focusing on reducing exposures;

Common Themes, continued:

- Understanding the marketplace and engaging suppliers;
- Engaging employees/users;
- Committing resources;
- Taking a broad view of costs and risks;
- Recognizing that this is an ongoing process;
- Building a broad network.

Thanks to:

Advisory Committee:

- Alicia Culver, Responsible Purchasing Network
- Mary Dickinson, Perkins+Will
- Beth Eckl, Practice Green Health
- Chris Geiger, San Francisco Department of the Environment
- Jill Kaufman-Johnson, Solazyme
- Theresa Leland, National Institutes of Health
- Sarah O'Brien, Green Electronics Council
- Jason Pearson, Sustainable Purchasing Leadership Council
- Joel Tickner, UMass Lowell
- Julia Wolfe, Massachusetts Operational Services Division

Case Study Interviewees

Advancing Safer Chemicals in Products

The Key Role of Purchasing

JUNE 2015

Lowell Center for Sustainable Production
UNIVERSITY OF MASSACHUSETTS LOWELL

WITH RPN

GREEN ELECTRONICS COUNCIL
SUSTAINABLE PURCHASING LEADERSHIP COUNCIL

For More Information:

Full Report available at:

http://saferalternatives.org//assets/media/documents/uml-rpt-greenpurchasing-715-web.pdf

Lowell Center for Sustainable Production:

www.sustainableproduction.or

Perlmutter Associates:

amy@aperlmutter.com

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Case Study: Healthy Purchasing Coalition

Overview

1. Background & Context
2. Coalition Purpose
3. Coalition Approach
4. Lessons Learned

Background & Context

Why human health and procurement?

What is the Healthy Purchasing Coalition?

Some chemicals are toxic.

Toxic chemicals are present in products.

We are exposed to toxic chemicals through products

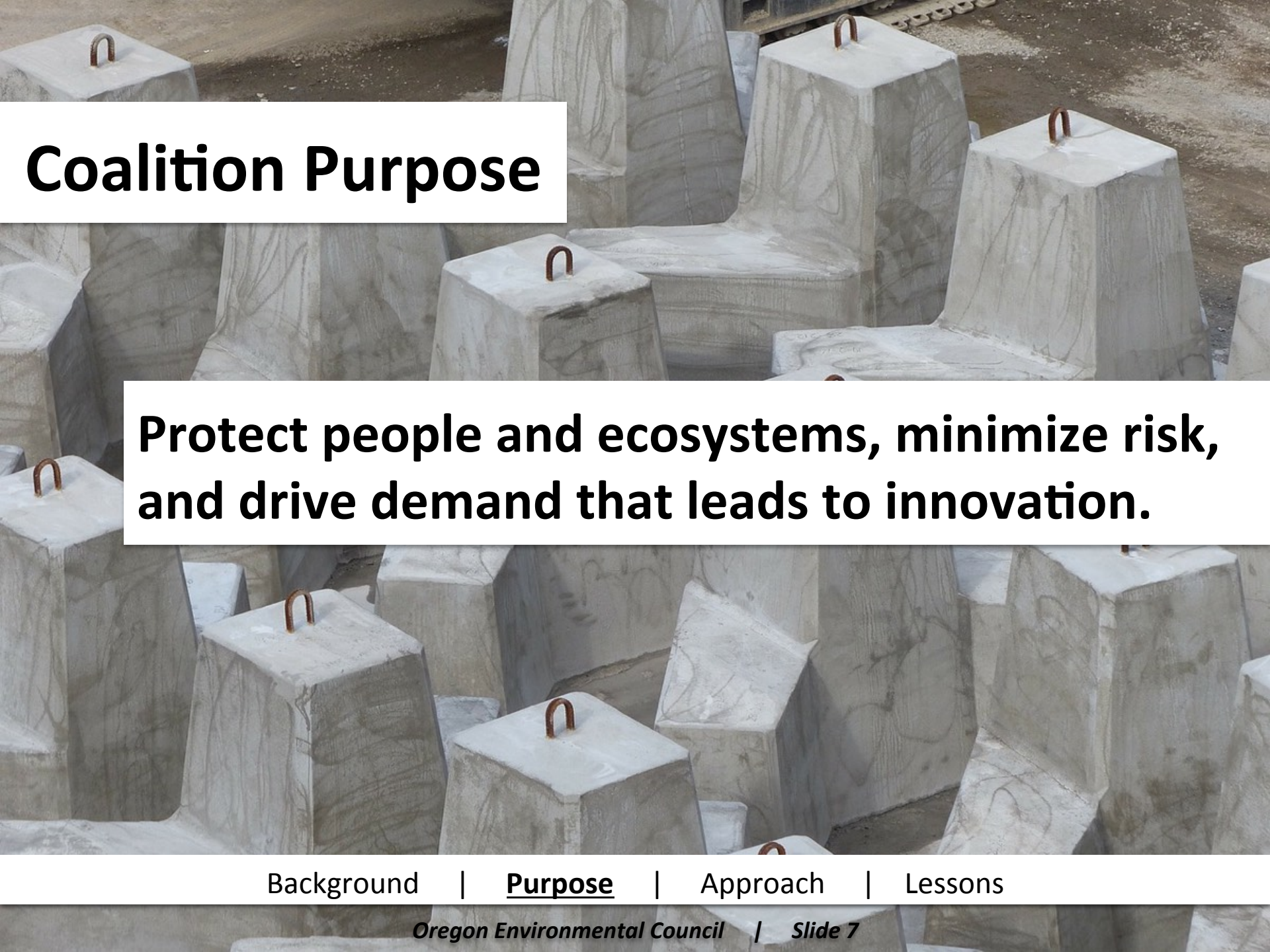
Public procurement helps drive innovation.

Procurement professionals play a key role in protecting people by helping identify and purchase safer goods and services.

Oregon Executive Order 12-05 (2012)

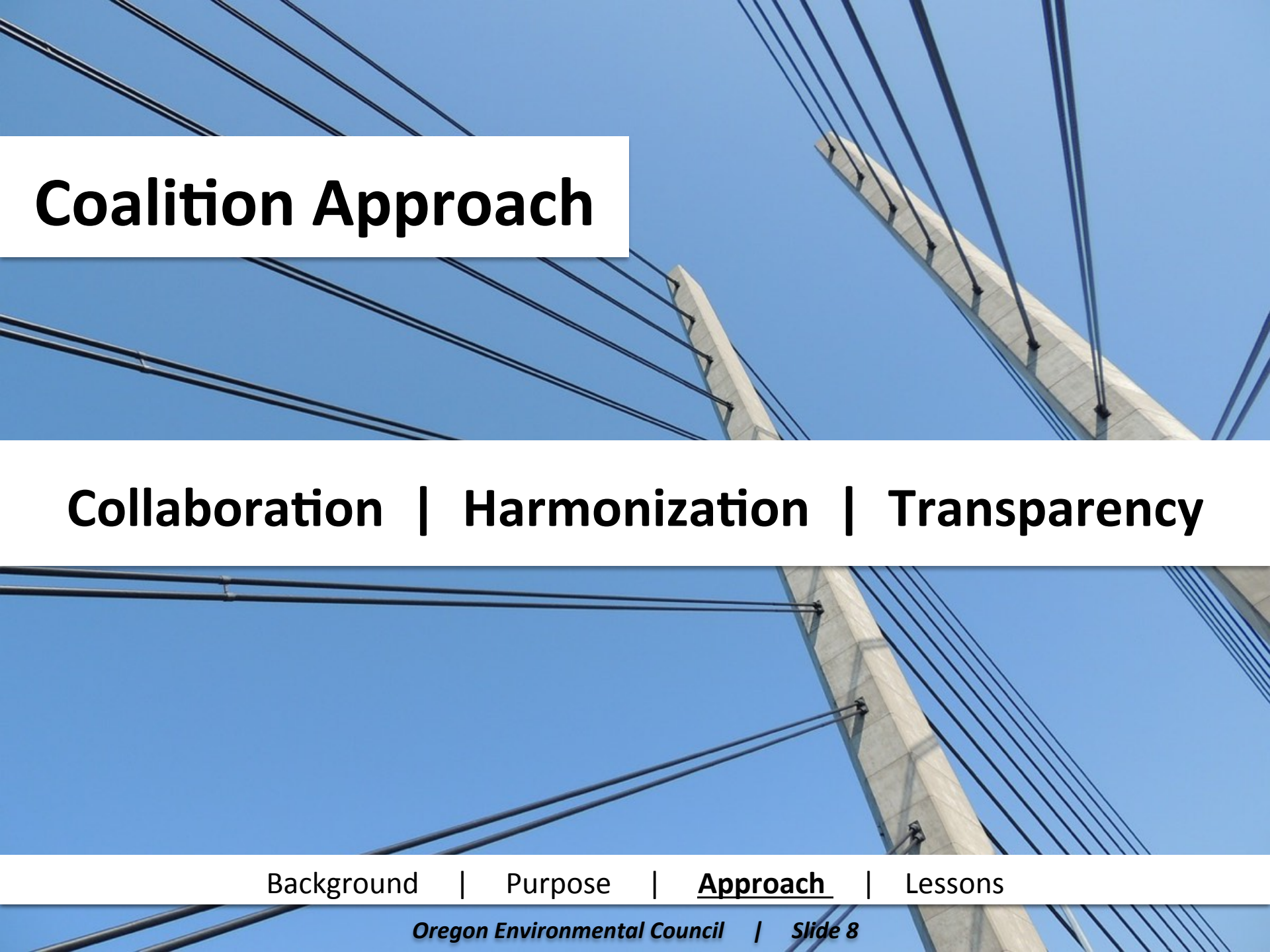
City of Portland & Multnomah County Joint Resolution (2013)

The Healthy Purchasing Coalition is a group of about a dozen cities, counties, ports, and higher education institutions.



Coalition Purpose

Protect people and ecosystems, minimize risk, and drive demand that leads to innovation.



Coalition Approach

Collaboration | Harmonization | Transparency

Collaboration: Shared framework, scope of work

Harmonization: Internal & External

Transparency: Informed decisions

Lessons Learned

Make it accessible. Make it easy.

Colin Price
Director of Market Innovation
Oregon Environmental Council
colinp@oeconline.org

Poll Question #2

Has your organization defined a restricted substances list?

1. *Yes*
2. *No*
3. *In Process*
4. *I don't know*
5. *N/A*

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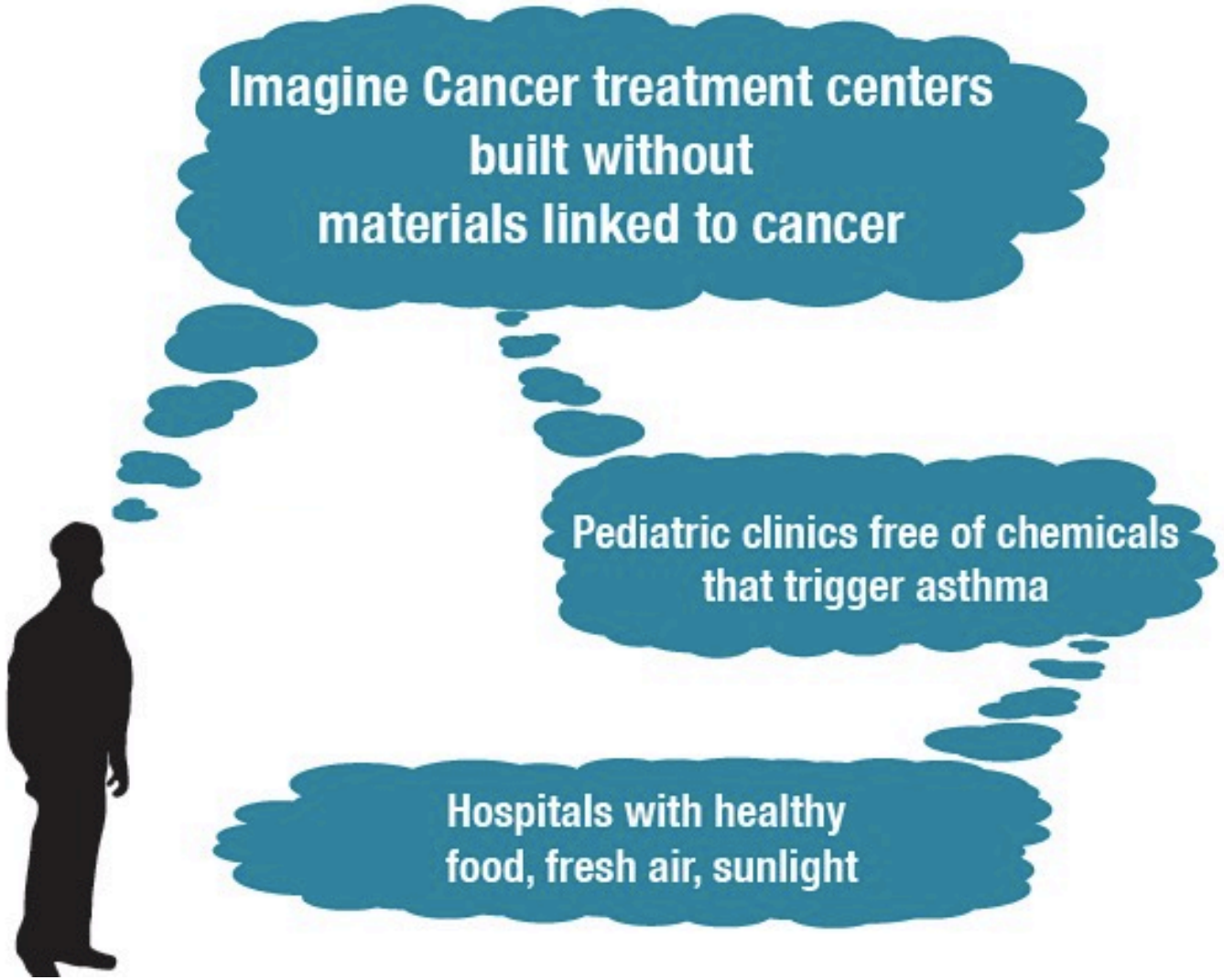
PERKINS+WILL'S TRANSPARENCY SITE

AND APPLYING THE PRECAUTIONARY PRINCIPAL

PERKINS+WILL



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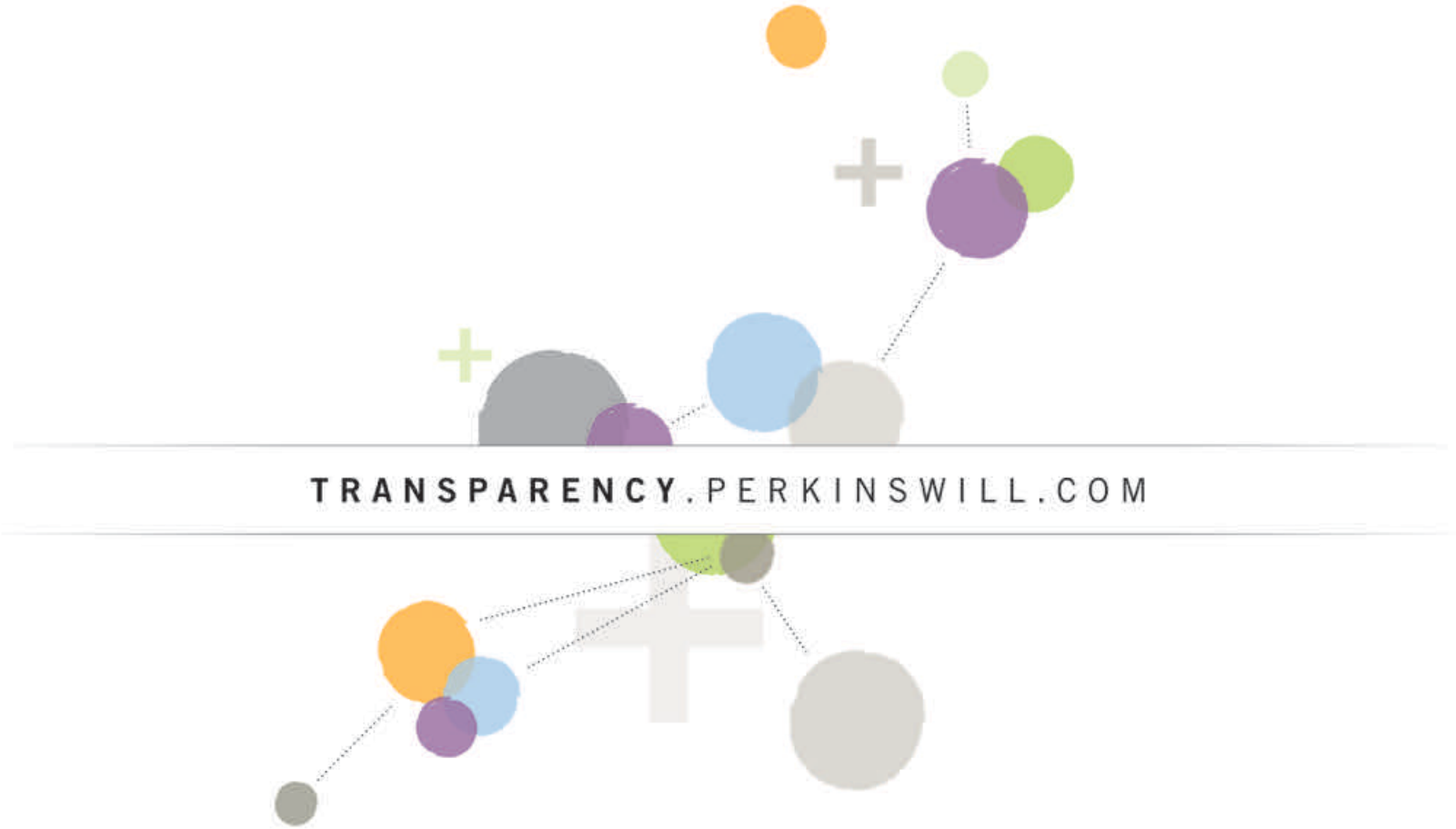

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Encouraging material health in the built environment.

What is this about?

1 **GOAL**

It is our belief that products that are harmful to humans, animals, and the environment sho
available alternatives so as to permit them to make informed decisions.

2 **EVALUATION**

The substances listed all have been classified by multiple regulatory entities as being detr
documents that will be updated as new relevant data emerges.

3 **ALTERNATIVES**

Rather than use products which contain these substances, we will seek out alternatives, in keeping with the precautionary principle, in an effort to be responsive to reported health effects, and thereby to protect our health and the health of future generations too. These lists are compilations of available data, and are not an endorsement of any of the referenced studies, articles, or data. Users are expected to practice due caution and to conduct their own research so that they can make informed decisions.

GOAL: It is our belief that products that are harmful to humans, animals, and the environment should not be used on our projects, and to that end, we seek to inform our clients of available alternatives so as to permit them to make an informed decision

---

We believe that it is appropriate to apply the precautionary principle when selecting and specifying products and materials in light of the lasting impact such materials may have on the users of facilities we design. We need to make our selections based upon governmentally published scientific advice and knowledge which, in keeping with the precautionary principle, indicates a relevant adverse finding as it relates to human health or materially negative environmental impact, with the understanding that we live in a world without scientific certainty. We will seek to, where possible and appropriate, present alternatives to our clients for their consideration, providing, within the standard of professional care, information we have which is summarized here, as well as cost and lifecycle information where it is reasonably available. We seek to empower our clients to make informed decisions. These lists do not pretend to be exhaustive, or to reference all relevant published information. Again, in keeping with the precautionary principle, they represent information which we believe dictates appropriate caution and wisdom in design decisions made by design professionals. It is expected that users will exercise appropriate caution in use of this resource, and to conduct their own research so that they can make their own decisions and come to their own conclusions.

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Show me the lists!

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The "Precautionary Principal"….

You get an alternative *and* the science is correct
…then you are **safe**

You get an alternative *and* the science is wrong
…then you are **safe**

You don't get an alternative *and* the science is correct
…then you are **not safe**

TRANSPARENCY

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What can I find here?

PRECAUTIONARY LIST

The Precautionary List includes substances commonly found in the built environment that have been classified by regulatory entities as being harmful to the health of humans and/or the environment. As such, this compilation is an ever-evolving and is updated as new data comes to light. This tool encourages users to employ the precautionary principle in the specification of building products.

ASTHMA TRIGGERS + ASTHMAGENS

This list identifies Asthmagens--substances that induce the chronic condition of asthma--commonly found in the built environment. This list is a compilation of substances that have identified human health impacts in the manufacturing, installation, and removal processes, as well as in the existing built environment. Compiled from third-party, government and academic sources, this list brings awareness on the causes of the disease and helps users make informed decisions on design and construction with respect to building products under the precautionary principle.

FLAME RETARDANTS

This list catalogs flame retardants found in the built environment. A comprehensive list providing in-depth knowledge of flame retardants, this tool is primarily informational and educational, and helps users understand not only where flame retardants are found in the built environment, but also if identified toxicity levels have a potential impact on human health. The original research was done by the Green Science Policy Institute.

NEWS, MEDIA + ADDITIONAL RESEARCH

In our ever-growing library of resources you will find a variety of materials, including a white paper on the potential human and environmental impacts of fly ash, the first on-product transparency label, a video interview on material health in healthcare design, and much more.

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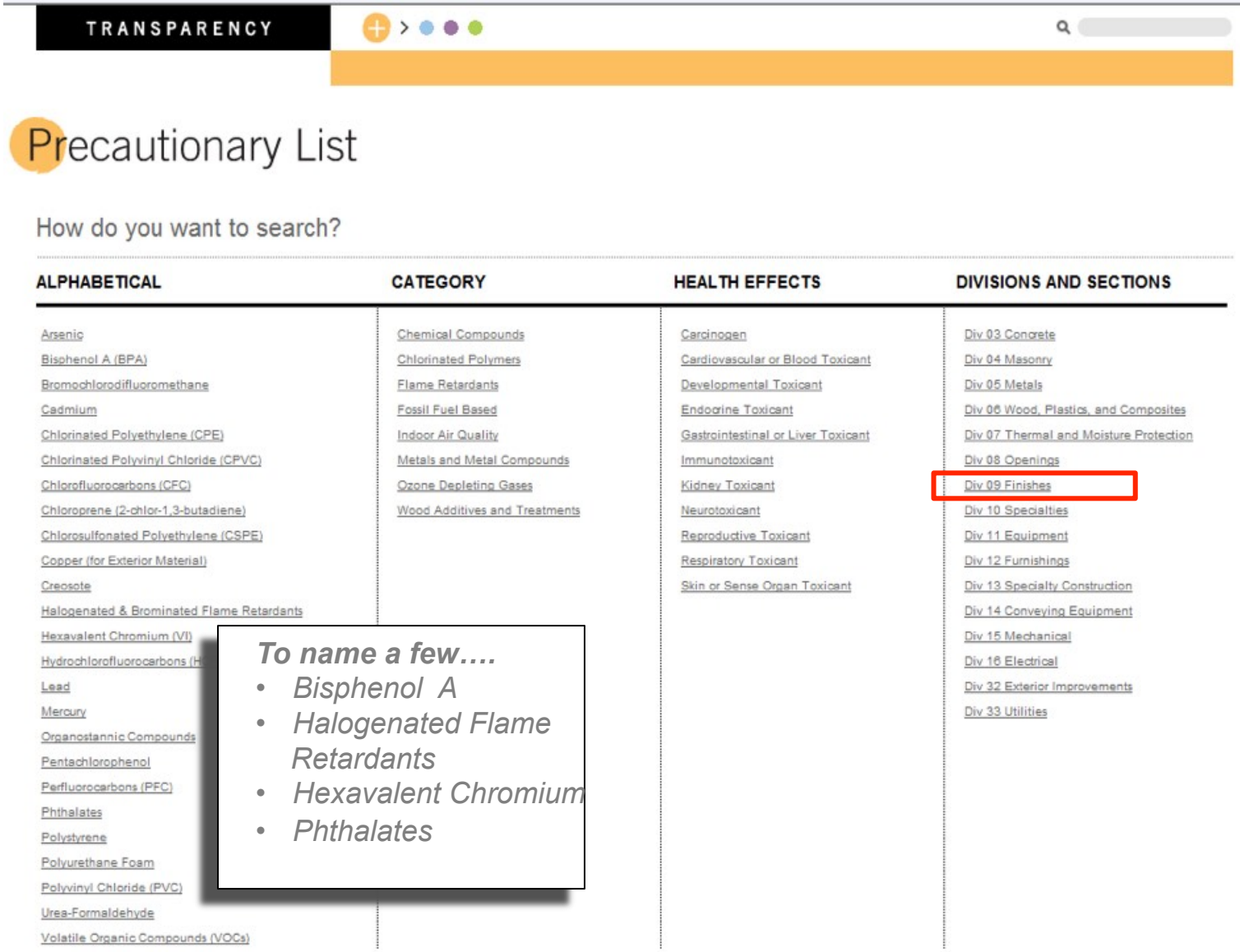

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Precautionary list

ALPHABETICAL	CATEGORY	HEALTH EFFECTS	DIVISIONS AND SECTIONS

Div 09 Finishes

Bisphenol A (BPA)	Cadmium	Chloroprene (2-chlor-1,3-butadiene)	Chlorosulfonated Polyethylene (CSPE)
Halogenated & Brominated Flame Retardants	Perfluorocarbons (PFC)	Phthalates	Polystyrene
Polyurethane Foam	Polyvinyl Chloride (PVC)	Urea-Formaldehyde	Volatile Organic Compounds (VOCs)

Precautionary list

ALPHABETICAL | CATEGORY | HEALTH EFFECTS | DIVISIONS AND SECTIONS

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Phthalates

Where is it Commonly Found?

Pipes, conduits, waterproofing, roofing, siding, door and windows, resilient flooring, carpet backing, wall covering, signage, window treatments, furniture, and wire cable sheathing

HEALTH EFFECT SUMMARY

In 2010 the European Union announced that under the terms of its new chemicals policy known as REACH, that three phthalates Butyl Benzyl Phthalate (BBP), Di(2-Ethylhexyl)Phthalate (DEHP), and Dibutyl Phthalate (DBP) will be banned from use within the next three to five years unless an authorization has been granted to individual companies for their use.

What are its known health effects?

Carcinogen (P65)

Developmental Toxicant (P65)

Reproductive Toxicant (P65)

What are its suspected health effects?

Endocrine Toxicant (BKH) (IL-EPA) (JNIHS) (KEIT) (WWF)

Gastrointestinal or Liver Toxicant (EPA-HEN) (OEHHA-CREL) (RTECS)

Respiratory Toxicant (OEHHA-CREL) (RTECS)

Skin or Sense Organ Toxicant (RTECS)

How is it Categorized?

Chemical Compounds

What is it's Origin?

A plasticizer used mostly in the production of flexible PVC products.

A class of phthalates that includes but not limited to Butyl Benzyl Phthalate (BBP), Di(2-Ethylhexyl) Phthalate (DEHP), Di-N-Octyl Phthalate (DNOP), Di-N-Pentyl Phthalate (DNPP), Dibutyl Phthalate (DBP), Diisobutyl Phthalate (DIBP), Diisodecyl Phthalate (DIDP), Diisononyl Phthalate (DINP), Di-N-Hexylphthalate (DNHP)

Divisions and Sections

Div 03 Water Stops

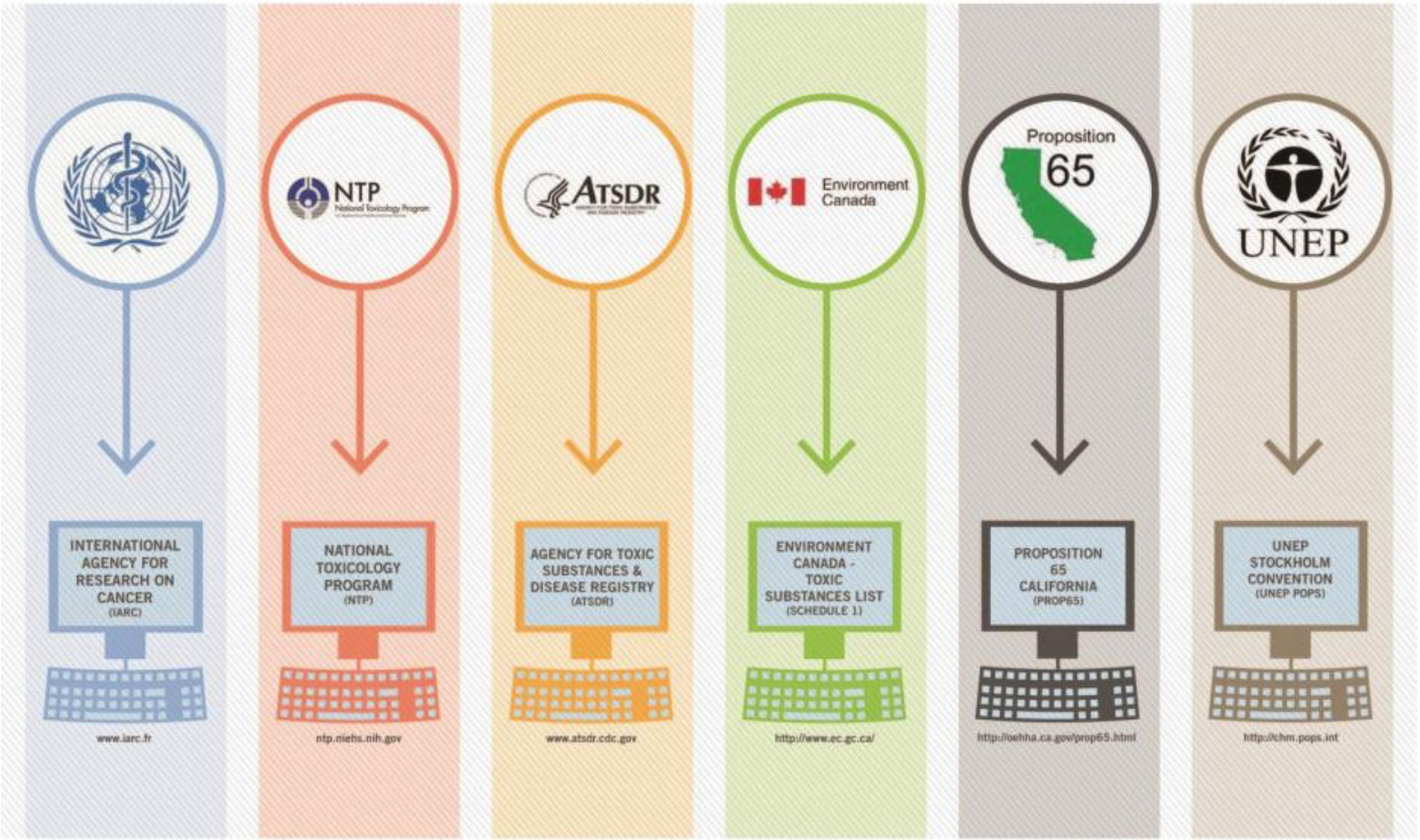
Div 04 PVC Flashing (Elastomeric Thermoplastic Flashing)

Div 04 Unit Masonry

Div 07 Dampproofing and Waterproofing

Div 07 Membrane Roofing

Our Information Sources



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Alternative Materials

PET plastic for wiring jacketing; natural and polyolefin materials for wallcovers; Rubber, Linoluem, PVC-free resilient flooring options; Nylon, Polyester for shower curtains; Polyurethane, Nylon, Nylon Microfiber and Polyethylene; Fiberglass base with cotton flocked backing, polyester with arcylic foamed backing, polyester, polyester and cotton, Olefin-coated olefin yarn, and Thermoplastic Olefin. There are many PVC-free options for piping, conduits, flooring, carpet, wall protection systems, windows & doors, backings, and window treatments.

Does it Correspond With Any Green Building Credits?

Living Building Challenge (1.2) - Prerequisite 5;
Living Building Challenge 3.0 - Red List;
Green Guide for Health Care - EQ 4.3 - Low Emitting Materials: Flooring Systems;
Green Guide for Health Care - MR Credit 4.1;
Green Guide for Health Care - EP4.2 - Toxic Reduction DEHP;
LEED Pilot C

Divisions and Sections

Div 03 Water Stops

Div 04 Unit Masonry

Div 04 PVC Flashing (Elastomeric Thermoplastic Flashing)

Div 07 Self-Adhering Sheet Waterproofing

Div 07 Siding

Div 07 Dampproofing and Waterproofing

Div 07 Membrane Roofing

Div 07 Polyvinyl-Chloride (PVC) Roofing

Div 08 Gasketing

Div 08 Vinyl Window

Div 09 Static-Control Resilient Flooring

Div 09 Stretched-Fabric Wall Systems

Div 09 Tile Carpeting

Div 09 Resilient Athletic Flooring

Div 09 Resilient Base and Accessories

Div 09 Resilient Sheet Flooring

Div 09 Resilient Tile Flooring

Div 09 Fabric-Wrapped Panels

Div 09 Wall Coverings

Div 10 Banners

Div 10 Accordion Folding Partitions

Div 10 Awnings

Div 10 Cubicles

Div 10 Operable Partitions

SUBSTANCE OF CONCERN LISTS

C2C "X" Assessed: Targeted for elimination via levels of optimization

1 Arsenic
2 Cadmium
3 Lead*
4 Mercury
5 Chromium VI
6 Copper (environment exposure)
7 PVC
8 CPVC
9 PVDC
10 PTFE*
11 Chloroprene
12 Chlorinated Polyethylene
13 Hydrochlorofluorocarbons
14 CFCs
15 HFRs**
16 Pentachlorophenol
17 Chlorobenzenes
18 PCBs
19 Short-chain chlorinated paraffins
20 Polycyclic aromatic hydrocarbons*
21 Creosote (added to wood)
22 Phthalates
23 Alkylphenols
24 Organostannic compounds, organotins
25 PFC
26 added Urea-formaldehyde
27 BCF
28 BPA
29 VOCs
30 Chlorosulfonated Polyethylene
31 Asbestos (CMR)
32 Petrochemical fertilizers and pesticides
33 Polystyrene
34 Polyurethane foam

Not included on C2C banned list or automatically x-assessed. Context specific assessment needed.

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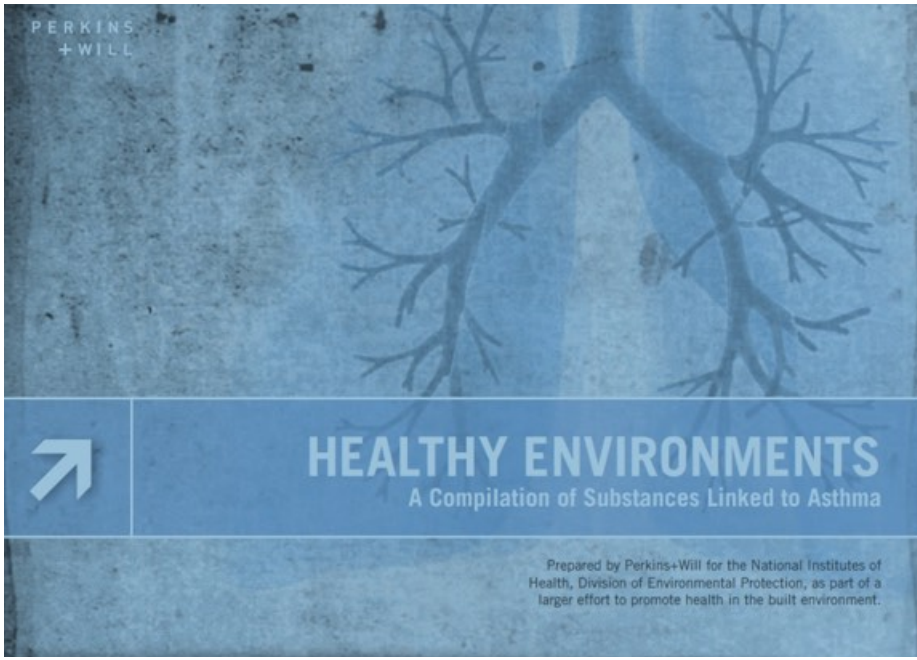
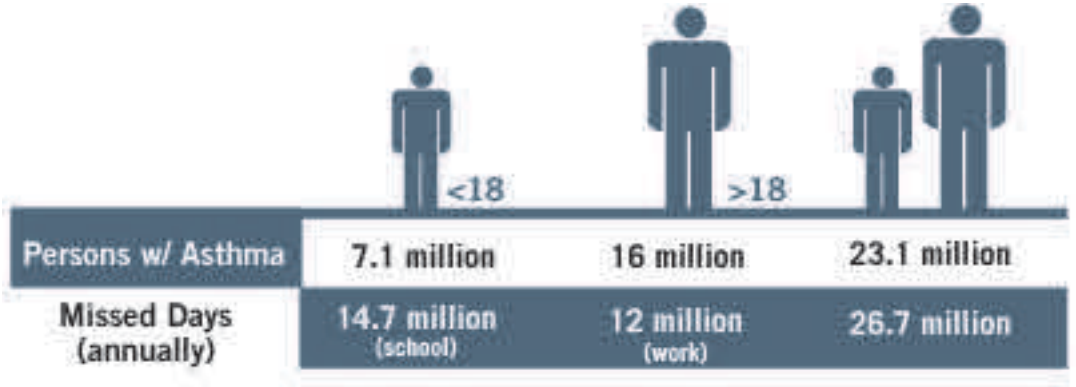
- Healthy Environments: A Compilation of Substances Linked to Asthma
- 374 substances have been linked to Asthma
  - 75 of those are found paints and adhesives



For the National Institute of Health
Division of Environmental Protection



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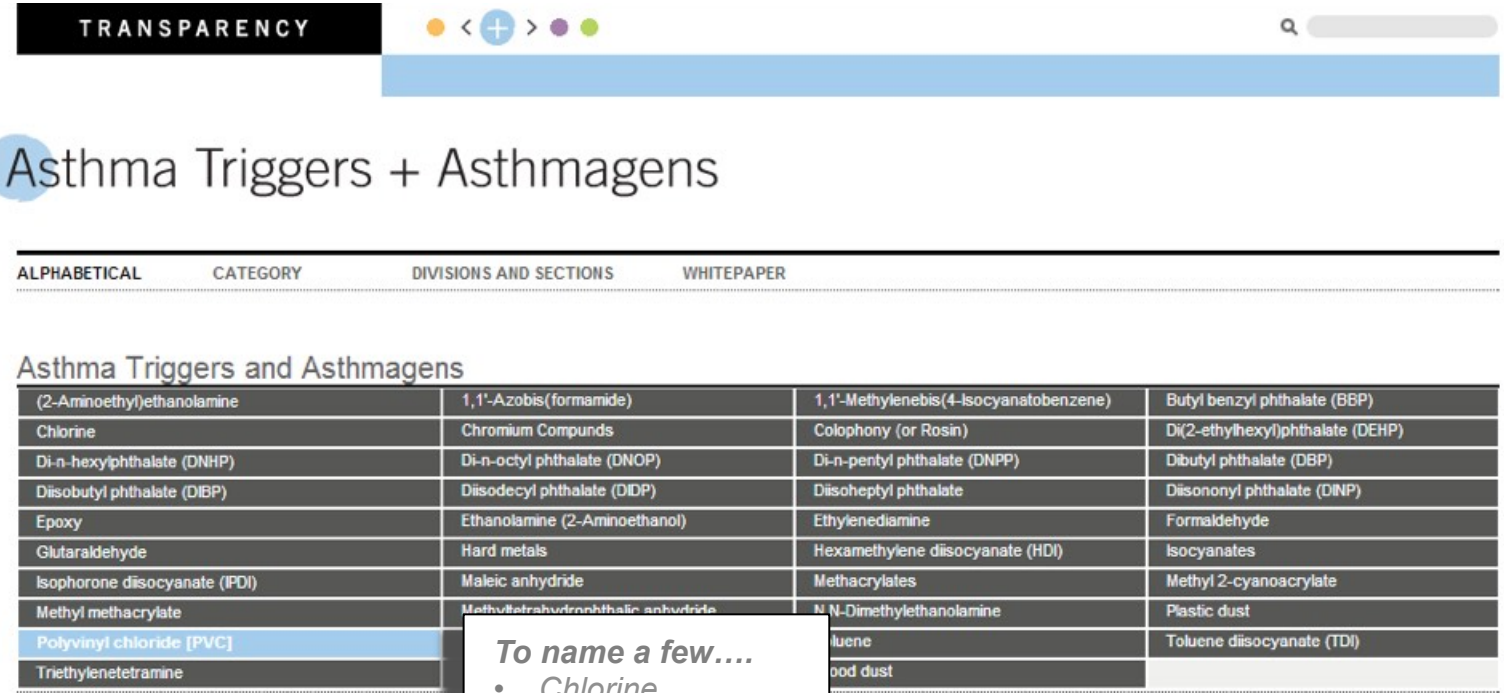
TRANSPARENCY
Asthma Triggers + Asthmagens
ALPHABETICAL
CATEGORY
DIVISIONS AND SECTIONS
WHITEPAPER
Asthma Triggers and Asthmagens
(2-Aminoethyl)ethanolamine
1,1'-Azobis(formamide)
1,1'-Methylenebis(4-Isocyanatobenzene)
Butyl benzyl phthalate (BBP)
Chlorine
Chromium Compunds
Colophony (or Rosin)
Di(2-ethylhexyl)phthalate (DEHP)
Di-n-hexylphthalate (DNHP)
Di-n-octyl phthalate (DNOP)
Di-n-pentyl phthalate (DNPP)
Dibutyl phthalate (DBP)
Diisobutyl phthalate (DIBP)
Diisodecyl phthalate (DIDP)
Diisoheptyl phthalate
Diisononyl phthalate (DINP)
Epoxy
Ethanolamine (2-Aminoethanol)
Ethylenediamine
Formaldehyde
Glutaraldehyde
Hard metals
Hexamethylene diisocyanate (HDI)
Isocyanates
Isophorone diisocyanate (IPDI)
Maleic anhydride
Methacrylates
Methyl 2-cyanoacrylate
Methyl methacrylate
N,N-Dimethylethanolamine
Plastic dust
Polyvinyl chloride [PVC]
luene
Toluene diisocyanate (TDI)
Triethylenetetramine
ood dust
To name a few….
Chlorine
Epoxy
Formaldehyde
Multiple Phthalates
Polyvinyl chloride [PVC]
CAS# 9002-86-2
Where is it Commonly Found?
Found during a heating process, thermal decomposition, or in the dust of the following:
Cable insulation
How is it Categorized?
Plastic & Rubber Dusts

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NEWS, MEDIA + ADDITIONAL RESEARCH

In our ever-growing library of resources you will find a variety of materials, including a white paper on the potential human and environmental impacts of fly ash, the first on-product transparency label, a video interview on material health in healthcare design, and much more.

transparency.perkinswill.com

Flame Retardants

How do you want to search?

ALPHABETICAL	CATEGORY	ADDITIONAL RESEARCH
1,2-bis(2,4,6-tribromophenoxy)ethane	Brominated Flame Retardant	Healthy Environments: Strategies for Avoiding Flame Retardants in the Built Environment
2-Ethylhexyl tetrabromobenzoate	Brominated Flame Retardant – organic phosphate	
Aluminum hydroxide	Chlorinated Flame Retardant – organic phosphate	
Antimony Trioxide	Inorganic Flame Retardant	
Bis(2-ethylhexyl) tetrabromophthalate	Inorganic synergist	
Decabromodiphenyl ethane	Organic phosphate	
Decabromodiphenyl ether (BDE-209)		
Diphenyl cresyl phosphate		
Hexabromobenzene		
Hexabromocyclododecane		
Tetrabromo-bisphenol-A		
Tricresyl phosphate		
Triphenyl phosphate		
Tris(2-chloro-1-methylethyl) phosphate		
Tris(isopropylphenyl)phosphate		
Tris(tribromoneopentyl) phosphate		
Tris[2-chloro-1-(chloromethyl) ethyl] phosphate		
Zinc borate		

TRANSPARENCY

"When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically."

-- The Wingspread Conference on **the Precautionary Principle** was convened by the Science and Environmental Health Network, 1998.

What can I find here?

PRECAUTIONARY LIST

The Precautionary List includes substances commonly found in the built environment that have been classified by regulatory entities as being harmful to the health of humans and/or the environment. As such, this compilation is an ever-evolving and is updated as new data comes to light. This tool encourages users to employ the precautionary principle in the specification of building products.

ASTHMA TRIGGERS + ASTHMAGENS

This list identifies Asthmagens--substances that induce the chronic condition of asthma--commonly found in the built environment. This list is a compilation of substances that have identified human health impacts in the manufacturing, installation, and removal processes, as well as in the existing built environment. Compiled from third-party, government and academic sources, this list brings awareness on the causes of the disease and helps users make informed decisions on design and construction with respect to building products under the precautionary principle.

FLAME RETARDANTS

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NEWS, MEDIA + ADDITIONAL RESEARCH

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transparency.perkinswill.com

News, Media + Additional Research

Browse our library...

IN THE NEWS

New Research By Perkins+Will Identifies Alternatives to Flame Retardant Building Materials

October 17, 2014. Perkins+Will's Healthy Materials Group and Science Fellow Michel Dedeo released a white paper identifying both new and existing opportunities to design healthier buildings without compromising fire safety or code compliance. The research can help designers identify which products should be subjected to extra scrutiny during the design and construction process and provides options for less hazardous alternatives. The white

IN THE NEWS

California law change sparks nationwide demand for flame-retardant -free furniture

September 30, 2014. A change to a building code that California enacted back in the 1970s is reverberating through the furniture industry. The rule known as TB-117 requires that materials inside furniture – such as foam – meet certain fire safety requirements, essentially created the nationwide market for chemical flame retardants. This article provides a useful context for the rising conversation about flame retardants in the design industry.

IN THE NEWS

Who's Afraid of Bromine

September 26, 2014. Bromine-based chemicals such as polybrominated diphenyl ether or hexabromocyclododecane are all around us, in our homes and even in our foods. Even though some have been banned or withdrawn, the bromine industry feels that it has become the victim of 'chemophobia.' What are the facts? What should you know? This article by Laurence Knight of BBC News provides needed background about the issue.

transparency.perkinswill.com

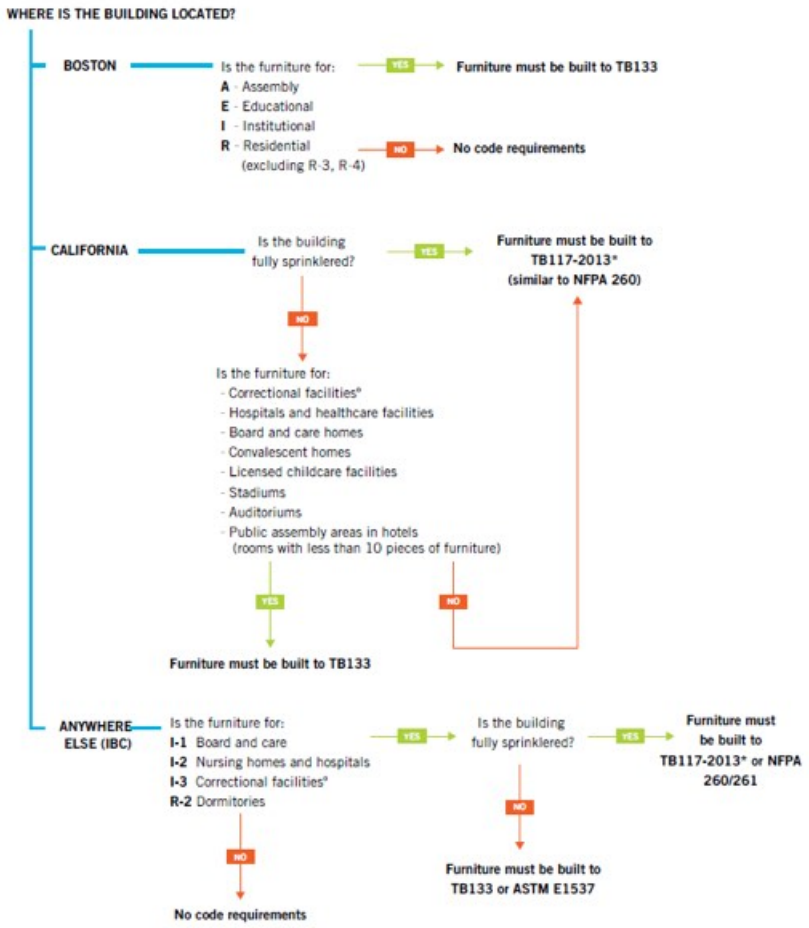
FIGURE 1. Commonly Flame Retarded Products in Buildings

GUIDELINES TO SELECTING MATERIALS WITHOUT HARMFUL FLAME RETARDANTS

Item		Are products without potentially harmful flame retardants available?
1a	Polyisocyanurate Foam Boards Insulation	Rare or Unavailable*
1b	Spray Polyurethane Foam (SPF) Insulation	Rare or Unavailable*
1c	Polystyrene Foam Boards (XPS and EPS) Insulation	Rare or Unavailable*
2	Upholstered Furniture	Uncommon
3	Curtains, and Textile Wall and Ceiling Covers	Common
4	Padding Under Broadloom Carpet	Uncommon
5	Steel Protected with Intumescent Paint	Common
6a	Televisions and Other Electronics with Plastic Cases	Uncommon
6b	Computers with Plastic Cases	Uncommon

** Alternatives to plastic foam insulation that do not include potentially harmful flame retardants are described in the following text.*

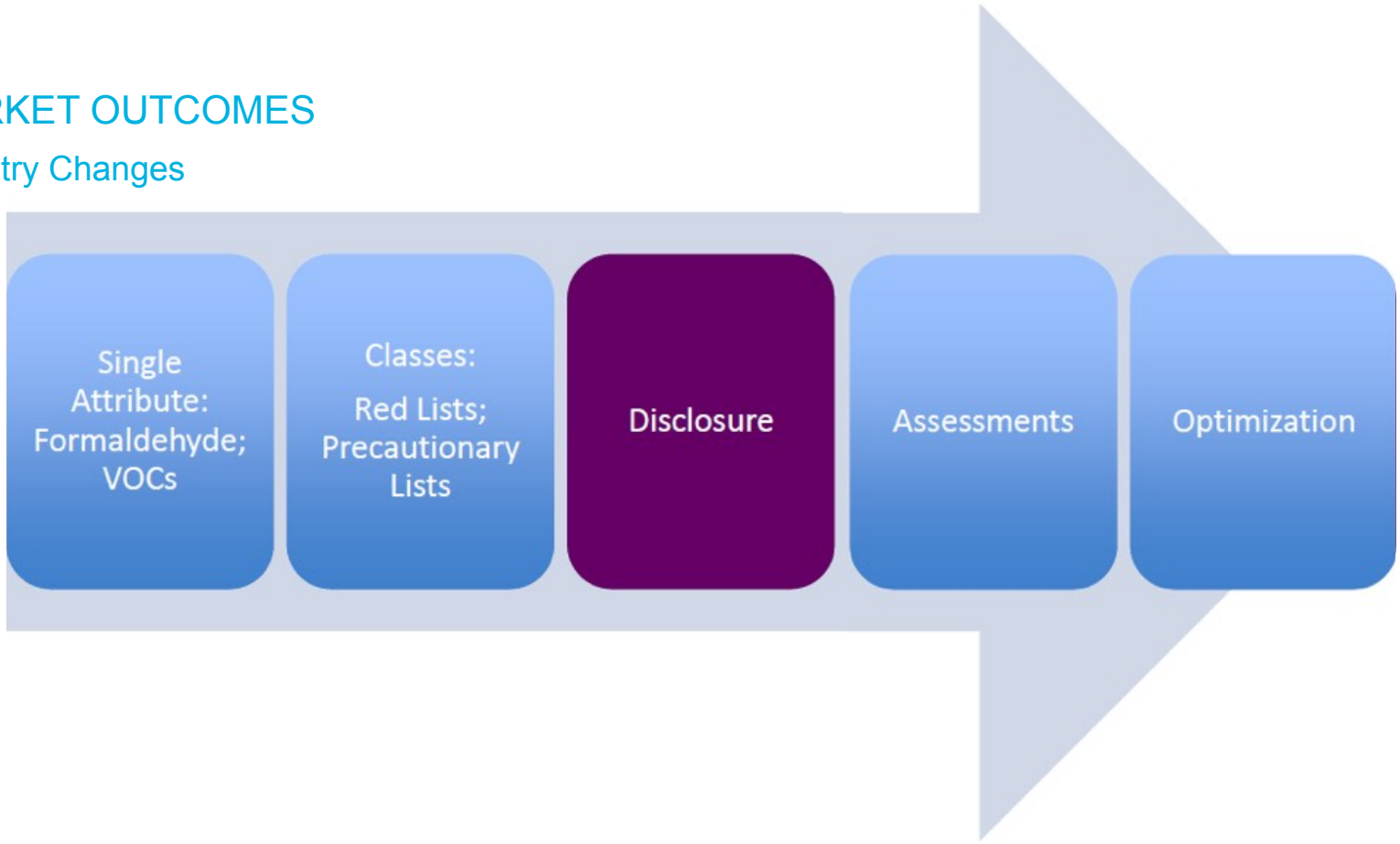
FIGURE 2. Furniture Flammability Requirements by Location



Requirement for TB117-2013 can also be met by TB133
°Furniture in correctional facilities must always meet TB133, regardless of sprinklers

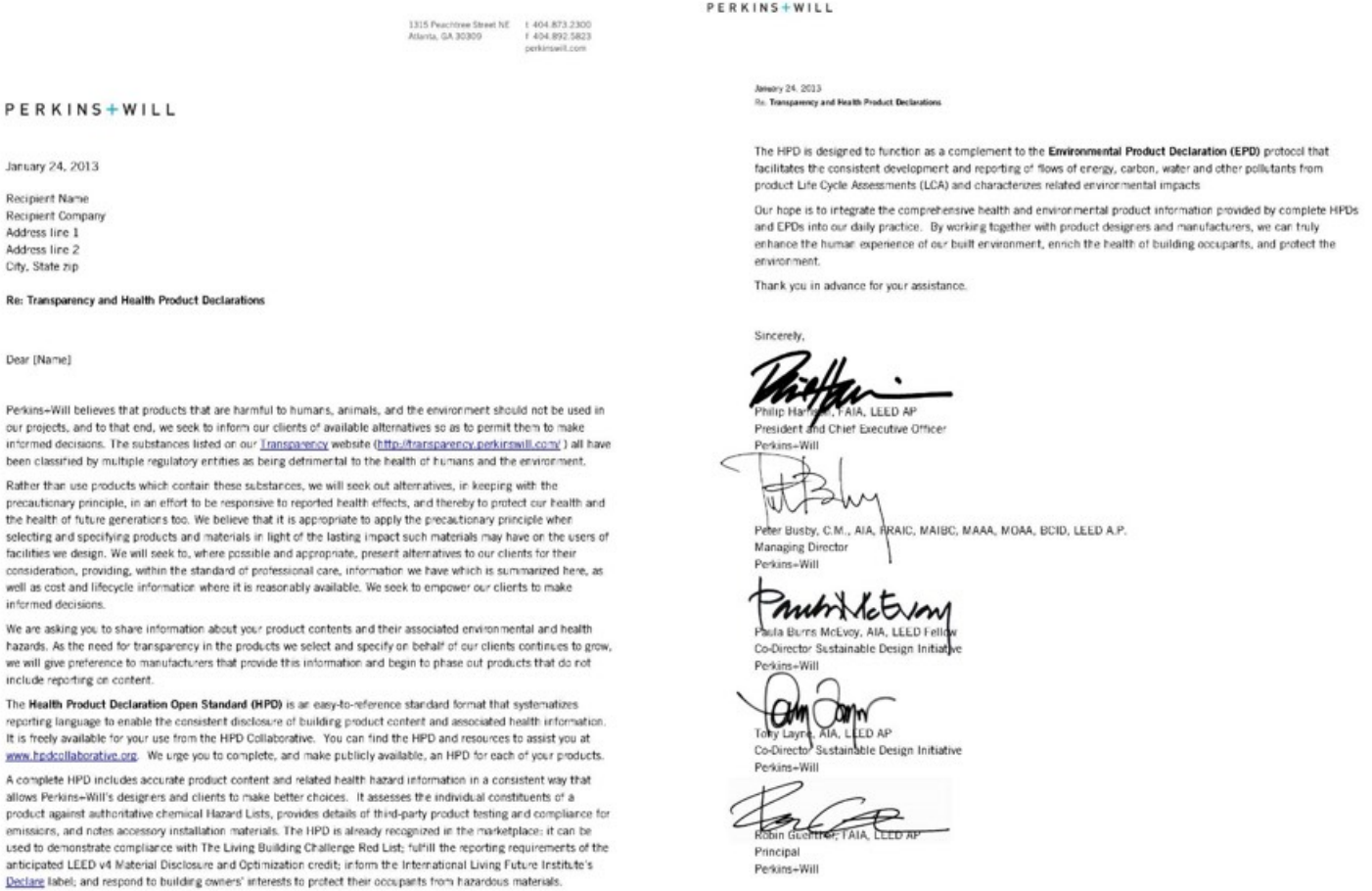
MARKET OUTCOMES

Industry Changes



MARKET OUTCOMES

Building Industry Partnerships – 25+ A&E Firm Letters



1315 Peachtree Street NE
Atlanta, GA 30309

t 404.873.2300
f 404.892.5823
perkinswill.com

PERKINS+WILL

January 24, 2013

Recipient Name
Recipient Company
Address line 1
Address line 2
City, State zip

Re: Transparency and Health Product Declarations

Dear [Name]

Perkins+Will believes that products that are harmful to humans, animals, and the environment should not be used in our projects, and to that end, we seek to inform our clients of available alternatives so as to permit them to make informed decisions. The substances listed on our Transparency website (http://transparency.perkinswill.com/) all have been classified by multiple regulatory entities as being detrimental to the health of humans and the environment.

Rather than use products which contain these substances, we will seek out alternatives, in keeping with the precautionary principle, in an effort to be responsive to reported health effects, and thereby to protect our health and the health of future generations too. We believe that it is appropriate to apply the precautionary principle when selecting and specifying products and materials in light of the lasting impact such materials may have on the users of facilities we design. We will seek to, where possible and appropriate, present alternatives to our clients for their consideration, providing, within the standard of professional care, information we have which is summarized here, as well as cost and lifecycle information where it is reasonably available. We seek to empower our clients to make informed decisions.

We are asking you to share information about your product contents and their associated environmental and health hazards. As the need for transparency in the products we select and specify on behalf of our clients continues to grow, we will give preference to manufacturers that provide this information and begin to phase out products that do not include reporting on content.

The **Health Product Declaration Open Standard (HPD)** is an easy-to-reference standard format that systematizes reporting language to enable the consistent disclosure of building product content and associated health information. It is freely available for your use from the HPD Collaborative. You can find the HPD and resources to assist you at www.hpdcollaborative.org. We urge you to complete, and make publicly available, an HPD for each of your products.

A complete HPD includes accurate product content and related health hazard information in a consistent way that allows Perkins+Will's designers and clients to make better choices. It assesses the individual constituents of a product against authoritative chemical Hazard Lists, provides details of third-party product testing and compliance for emissions, and notes accessory installation materials. The HPD is already recognized in the marketplace: it can be used to demonstrate compliance with The Living Building Challenge Red List; fulfill the reporting requirements of the anticipated LEED v4 Material Disclosure and Optimization credit; inform the International Living Future Institute's Declare label; and respond to building owners' interests to protect their occupants from hazardous materials.

AMERICAS | ASIA | EUROPE | MIDDLE EAST | AFRICA

PERKINS+WILL

January 24, 2013
Re: **Transparency and Health Product Declarations**

The HPD is designed to function as a complement to the **Environmental Product Declaration (EPD)** protocol that facilitates the consistent development and reporting of flows of energy, carbon, water and other pollutants from product Life Cycle Assessments (LCA) and characterizes related environmental impacts

Our hope is to integrate the comprehensive health and environmental product information provided by complete HPDs and EPDs into our daily practice. By working together with product designers and manufacturers, we can truly enhance the human experience of our built environment, enrich the health of building occupants, and protect the environment.

Thank you in advance for your assistance.

Sincerely,

Philip Harrison, FAIA, LEED AP
President and Chief Executive Officer
Perkins+Will

Peter Busby, C.M., AIA, RAIC, MAIBC, MAAA, MOAA, BCID, LEED A.P.
Managing Director
Perkins+Will

Paula Burns McEvoy, AIA, LEED Fellow
Co-Director Sustainable Design Initiative
Perkins+Will

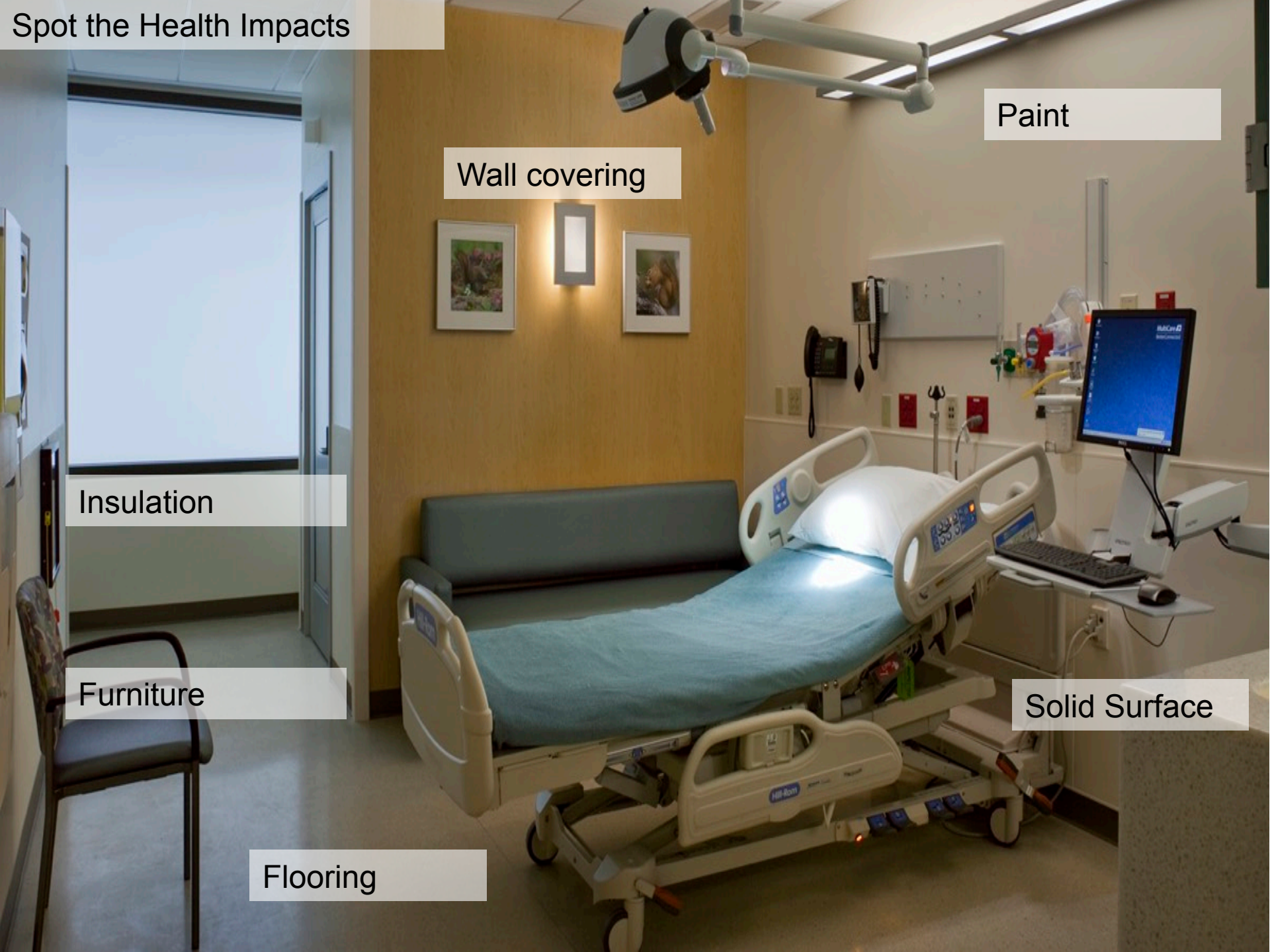
Tony Layne, AIA, LEED AP
Co-Director Sustainable Design Initiative
Perkins+Will

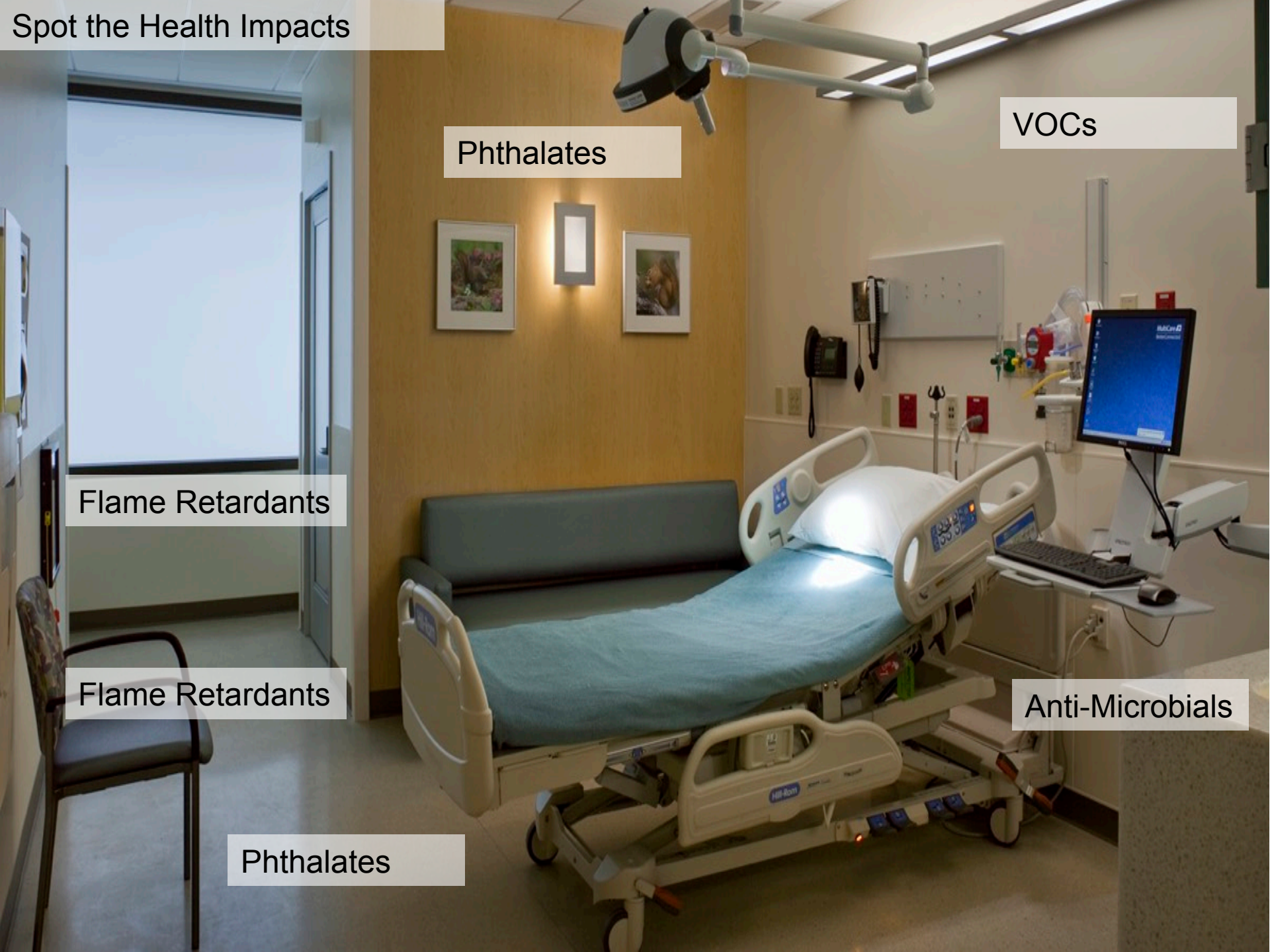
Robin Guenther, FAIA, LEED AP
Principal
Perkins+Will

perkinswill.com

MARKET OUTCOMES

Building Client Partnerships & Project Process


Spot the Health Impacts
Paint
Wall covering
Insulation
Furniture
Solid Surface
Flooring


Spot the Health Impacts
Phthalates
VOCs
Flame Retardants
Flame Retardants
Anti-Microbials
Phthalates


Spot the Health Impacts
Asthmagen, Endocrine toxicant, and Respiratory Toxicant
Asthmagen, Developmental Toxicant
Diabetes, obesity and hyperactivity
Carcinogen, Developmental and Reproductive Toxicant
Asthmagen, persistent, bioaccumulative substance
Carcinogen, Developmental and Reproductive Toxicant

MARKET OUTCOMES

Building Client Partnerships & Project Process

MARKET OUTCOMES

Challenges - Disclosure Tools

Undisclosed (Acrylic resin)	Unknown	0.2 - 0.3 %		N	N	Primer
None found	No warnings found on HPD Priority lists					
Not disclosed by supplier. Fully cured proprietary mixture.						

MARKET OUTCOMES

Challenges - Regrettable Substitutions???

Endorine Society, June 23 2014

MARKET OUTCOMES

Challenges – Need to Expanding Teams

TECHNOLOGY

MATERIAL HEALTH

Perkins+Will Hired a Chemist. Should Your Firm?

Chemist Michel Dedeo is educating the firm's architects and designers on material health.

By HALLIE BUSTA

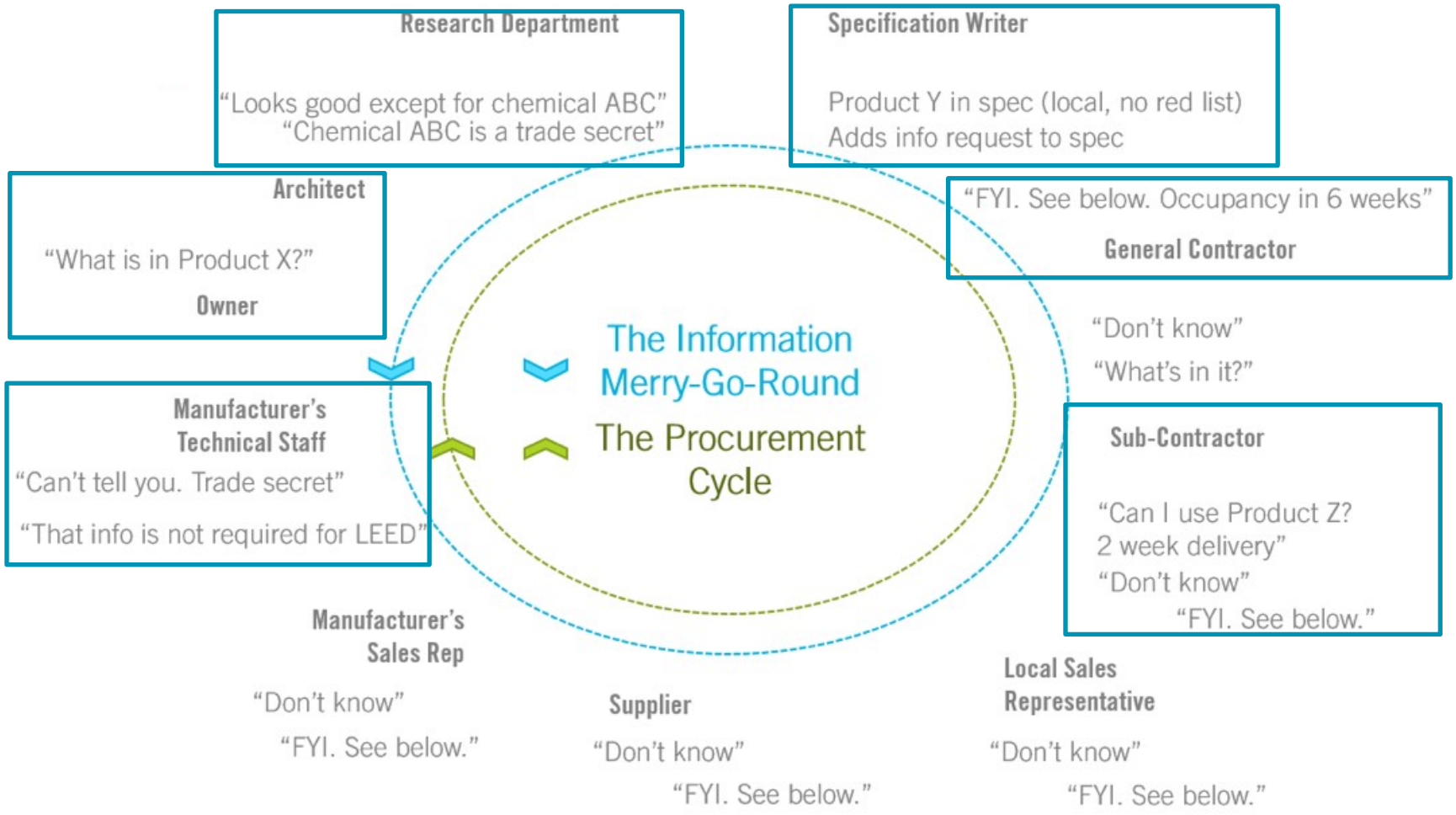
Perkins+Will

Michel Dedeo is working part-time for four months as a material-health fellow at Perkins+Will in San Francisco.

Understanding a product's environmental impact is a challenge that extends beyond the availability of Health Product Declarations and life cycle assessments. Even with those disclosure documents in hand, specifiers and clients must interpret often-complex information. For help, Perkins+Will—a longtime leader in sustainable design and a promoter of transparency in material disclosure—opened a part-time fellowship position with the task of educating the firm on material-health issues. We pitched a few questions via email to the fellow, Michel Dedeo, who holds a PhD in chemistry from the University of California, Berkeley, and consults on the Healthy Building Network's Pharos Project, to learn about his job and how his work is affecting the firm's specifications. Dedeo will hold the post part-time for four months but the firm said in an email that it hopes to hire more material-health fellows in the future.

MARKET OUTCOMES

Substitutes During Construction



P+W TRANSPARENCY + MATERIAL HEALTH GROUP

Mission – Advocacy, Education, and Practice

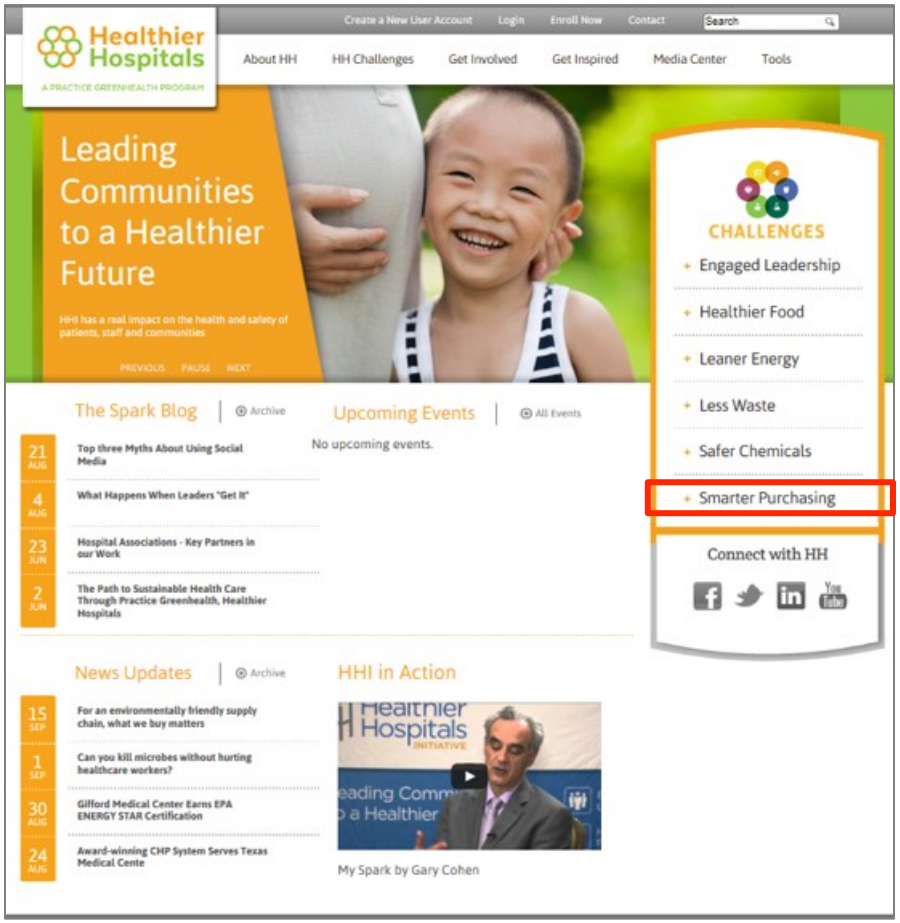
Quality Building Codes
Don't Just Happen
They're created by professionals like you!

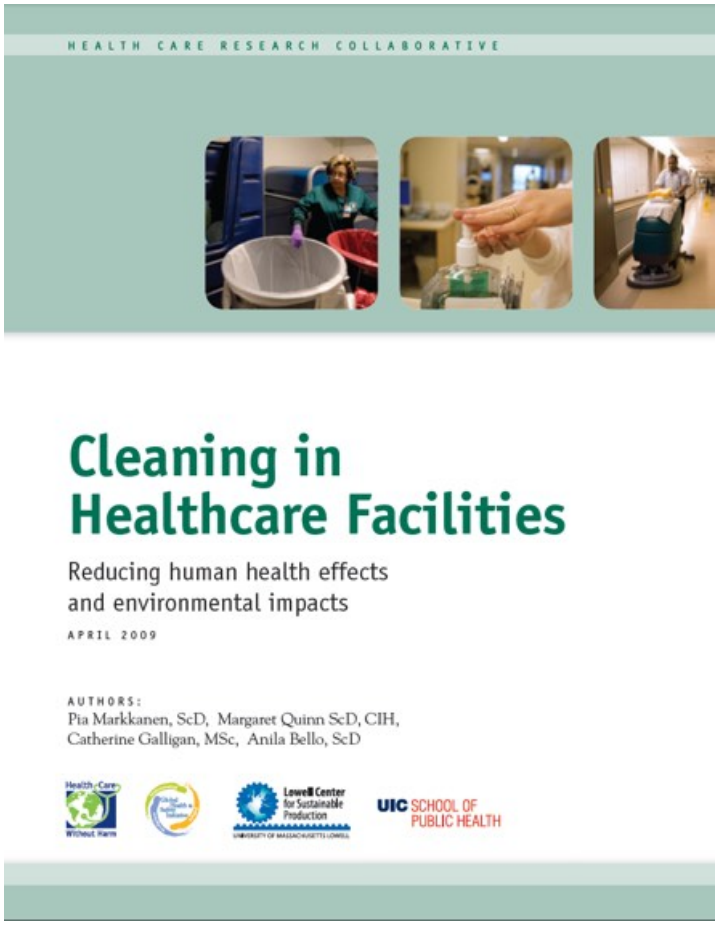
P+W TRANSPARENCY + MATERIAL HEALTH GROUP

Mission – Advocacy, Education, and Practice

P+W TRANSPARENCY + MATERIAL HEALTH GROUP

Practice - Working with clients on a holistic approach





Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

World Health Organization of **Health**
1946

Poll Question #3

Have you used any of the following ecolabels to guide your purchasing of safer products?

1. *Green Seal*
2. *UL EcoLogo*
3. *Design for Environment/Safer Choice*
4. *EPEAT*
5. *USDA Organic*

Presentations

Amy Perlmutter
Lead Report Author
Perlmutter Associates

Colin Price
Director of Market Innovation
Oregon Environmental Council

Mary Dickinson
Regional Sustainable Design Leader
Perkins+Will

Alicia Culver
Director
Responsible Purchasing Network

Sarah O'Brien
Director of Global Stakeholder Engagement
Green Electronics Council

Moderator

Sam Hummel
Director of Outreach
& Operations
SPLC

How to Use Certifications to Purchase Safer Products

Alicia Culver

Responsible Purchasing Network

Safer Purchasing Webinar

September 30, 2015

Why Certification of Toxicity Claims is Important

- **Prevents greenwashing (unsubstantiated or false claims)**
  - ✓ Sets standards for all products in a category to meet
  - ✓ Verify claims, including onsite audit of manufacturing process
  - ✓ Avoids health and environmental tradeoffs
- **Makes bid solicitation and evaluation easy by listing certified products**
- **Often addresses product performance**

How to Evaluate Certifications

Important criteria to look for:

- **Independently developed (no conflict of interest)**
- **Transparent standard and process (you know what you're getting)**
- **Multi-attribute (standard addresses all important health and environmental impacts)**
- **Enough products are certified by this (or equivalent) certification to get competition**

5 Northeastern States Used Third-Party Certifications to Procure Janitorial Supplies

- General Purpose Cleaners
- Specialty Cleaners and Deodorizers
- Floor Polish & Strippers
- Laundry and Dish Detergents
- Hand Soaps and Hand Sanitizers
- Deicing Chemicals
- Janitorial Paper Products

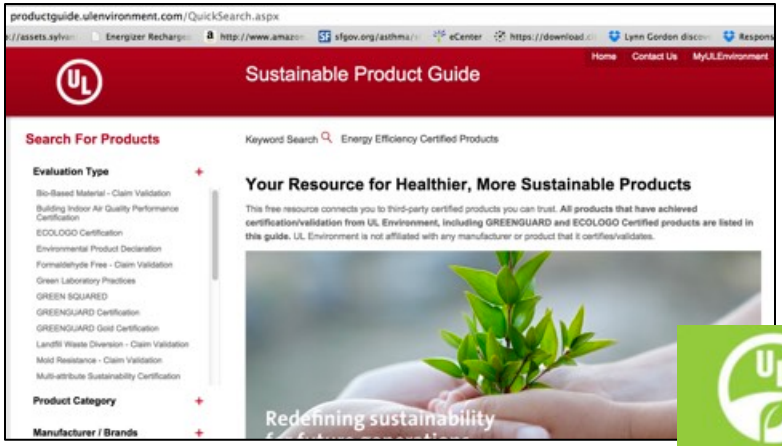
Multi-Attribute Certifications Address Many Health Concerns

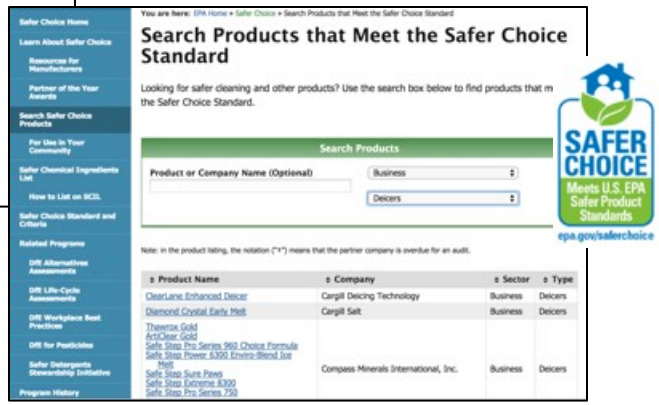
Example: Green Seal's Certification of Institutional Cleaners (GS-37)

- Known and Suspected Carcinogens
- Reproductive Toxins
- Asthmagens
- Endocrine disruptors
- Skin sensitizing agents
- Corrosivity to skin and eyes
- Aquatic toxicity
- Performance testing
- Packaging

Lists of Certified Cleaners Make Bid Solicitation/Evaluation Easy

www.greenseal.org





Multi-Attribute Certifications for Janitorial Paper

VS

Eco-Conscious
Recycled content

Latex Paint Certifications

Third-party certifications for low-toxicity latex paint and primer

- ✓ Green Seal
- ✓ UL EcoLogo
- ✓ Master Painters Institute Extreme Green (X-Green)

Multi-attribute criteria for low-toxicity paint

- ✓ Limits on VOCs
- ✓ Prohibitions on carcinogens, mutagens, reproductive toxins, hazardous air pollutants, ozone-depleting substances
- ✓ Prohibitions on phthalates, etc.
- ✓ Performance criteria

Toxicity Restrictions in Master Painter Institute's Standards

- **All Green Performance Standards set a VOC standard of 50 g/l.**
- **X-Green products are also certified low-emitting.**

[The **MPI Green Performance**® Standard requires that the manufacturer shall demonstrate that the following chemical compounds are **not used** as ingredients in the manufacture of the product: [Trace elements (max. 5 ppm) as a by-product are excluded.]

Acrolein	Diethyl phthalate	Formaldehyde	Methylene Chloride
Acrylonitrile	Dimethyl phthalate	Hexavalent Chromium	Naphthalene
Antimony	Di-n-butyl phthalate	Isophorone	Toluene (Methylbenzene)
Asbestos	Di-n-octyl phthalate	Lead	1,1,1 –trichloroethane
Benzene	1,2 –dichlorobenzene	Mercury	Vinyl Chloride
Butyl benzyl phthalate	Di (2-ethylhexyl) phthalate	Methyl ethyl ketone	
Cadmium	Ethylbenzene	Methyl isobutyl ketone	

IARC – Group 1 Carcinogenic to humans [excluding crystalline silica, not in the form of quartz or cristobalite dust].

Lists of Certified Paints Make Bid Solicitation/Evaluation Easy

MPI GREEN PERFORMANCE™ STANDARD PRODUCTS

previous | MPI Green Performance™ Standard Products Index (by MPI number) | next

Search MPI Green Performance™ Standard Products | Search

MPI # 43 X-Green™ Latex, Interior, (MPI Gloss Level 4)

Note: Requires a properly-prepared Level 5 drywall finish.
See "Standard Specification for Application and Finishing of Gypsum Board – ASTM C 840".

A white, or colored, water based latex-based paint with a finish between a traditional eggshell and semi-gloss. Used on primed/sealed interior plaster and gypsum board, and on primed wood and metals.

[Gloss must be 20 to 35 units @ 60° and sheen minimum 35 units @ 85°. Other evaluated characteristics include consistency/viscosity, dry time, fineness of grind, hiding power by contrast ratio method, reflectance, alkali resistance, flexibility, scrubbability, and sealing properties. See MPI 'Detailed Performance' Specs for complete details, specific requirements, and/or reference specs.] MPI Detailed Performance

MPI VOC Ranges (grams/L)	E3 <51 g/l	E2 g/l	E1 g/l	E '0' - outside range, n/a - unavailable

EPR - Environmental/Performance Rating (VOC & Relative Performance of Category+Gloss & Appropriate Specified Use). ✔ meets GPS-1, ✔ meets MPI GPS-2 for Standard Category: Interior Architectural Non-Flat Intermediate/Top Coats ✔ meets RG (OTC or EC) ✔ meets LEED (excluding LEED for schools)

Listing Mfr	Label	Product Name	Code	E Range	RG	L	EPR	GPS-1	GPS-2
Behr Paint	Premium Plus	Interior Satin Enamel	7050	E 3	✔	✔	3.5	✔	✔
Behr Paint	Premium Plus Ultra	Interior Satin Enamel	7750	E 3	✔	✔	3.5	✔	✔
Benjamin Moore	Aura	Waterborne Interior Paint Satin Finish	526/K526	E 3	✔	✔	3.5	✔	✔
Benjamin Moore	Ben	Premium Interior Latex Pearl Finish	K628	E 3	✔	✔	3.5	✔	✔
Benjamin Moore	Regal Select	Premium Interior Paint & Primer Pearl Finish	550/K550	E 3	✔	✔	3.5	✔	✔
Benjamin Moore	Super Hide	Zero VOC Interior Semi-Gloss	358	E 3	✔	✔	3.5	✔	✔
Benjamin Moore	Ultra Spec 500	Waterborne Interior Semi Gloss	N539/K539	E 3	✔	✔	3.5	✔	✔
Kelly-Moore	494 KM Commericial Interior Latex Satin Enamel	494 KM Commericial Interior Latex Satin Enamel	494122	E 3	✔	✔	3.5	✔	✔
PPG Architectural	Glidden Professional (US)	Ultra-Hide 150 Interior Lo Lustre Paint	1433	E 3	✔	✔	3.5	✔	✔
PPG Architectural	PPG Paints	Ultra-Hide 150 Interior Lo Lustre Paint	1433G	E 3	✔	✔	3.5	✔	✔
Sherwin-Williams	Cashmere	Interior Acrylic Pearl Lustre	D15W00151	E 3	✔	✔	3.5	✔	✔
Sherwin-Williams	EcoSelect	EcoSelect Zero VOC Semi-Gloss	A20W00851	E 3	✔	✔	3.5	✔	✔

	Rust-Oleum Corporation	Sierra Performance™ S40 Water-Based Epoxy Floor Coating (Gloss w/Activator)
	Rust-Oleum Corporation	Sierra Performance™ S42 Water-Based Epoxy Floor Coating (Satin w/Activator)
	Rust-Oleum Corporation	Sierra Performance™ S60 Water-Based Epoxy Maintenance Coating (Gloss w/Activator)

GS-43 Recycled Content Latex Paints

Metro	Metro Paint	Low-Sheen Recycled Latex Paint
Metro	Metro Paint	Metro Paint Interior/Exterior
	Visions Recycling Company	Workhorse Exterior (Latex Flat, Latex Low Sheen)
	Visions Recycling Company	Workhorse Interior (Latex Flat, Latex Eggshell, Latex Semi-Gloss)

Toxicity Restrictions Are Included in Many Certifications

Reference Certifications in Bid Solicitations

"Products/services purchased under this contract must be _____ certified or provide demonstrable proof of meeting the _____ standard and certification requirements. The _____ standard and certification requirements are available at <_____>."

Encourage Supplier Labeling of Certified Products

GOJO® FMX-12™ Green Seal Certified Foam Hand Cleaner Refill, 42 Oz.

Item # 603095

Mild foam soap formula

- Designed for use with GOJO TFX™ 2730 Touch-Free Foam Soap Dispensers.
- Green Seal®-certified to ensure lower impact on the environment.

MORE ABOUT THIS PRODUCT

Tech Specs	Additional Information	Compliance & Restrictions	MSDS	Required Accessories	Optional Accessories	Alternate Products	Repair Parts

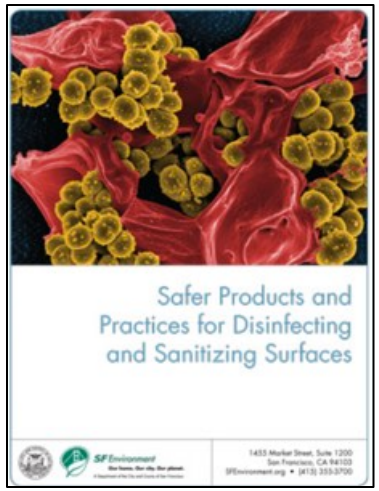
Sub-Category	Metal
Item	Cleaner
Form	Liquid
Size	22 oz.
Container Type	Trigger Spray Bottle
For Use On	Stainless Steel, Brass, Chrome, Aluminum, Granite, Marble, Corian , Tile Surfaces
Contains	Soy
Green Certification or Other Recognition	EPA Design for the Environment Recognized
Green Environmental Attribute	Biobased with A Minimum 73% of Total Weight of Organic Carbon As Per ASTM D6866

Low-Toxicity Certifications for Services

GREEN SHIELD CERTIFIED℠

ecowise CERTIFIED

RPN Safer Purchasing Resources



Coalition *for* Healthier Schools

...providing the national platform and the forum for environmental health at school, since 2001...

Coordinated by Healthy Schools Network

Healthy Purchasing for Healthy Schools

A Guidance Memo

Green Cleaning + Five More Product Categories to Help Make Schools Healthier

- **Green Cleaning Supplies**
- **Low-Toxicity Paints**
- **EPEAT-Registered Electronics**
- **ACMI AP Art Supplies**
- **PVC-free/Recycled Office Supplies**
- **Low-Emitting Furniture**

Questions? Comments?

Alicia Culver

Responsible Purchasing Network

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Presentations

Amy Perlmutter
Lead Report Author
Perlmutter Associates

Colin Price
Director of Market Innovation
Oregon Environmental Council

Mary Dickinson
Regional Sustainable Design Leader
Perkins+Will

Alicia Culver
Director
Responsible Purchasing Network

Sarah O'Brien
Director of Global Stakeholder Engagement
Green Electronics Council

Moderator

Sam Hummel
Director of Outreach
& Operations
SPLC

EPEAT

Sarah O'Brien, Green Electronics Council

September 2015

What does EPEAT cover?

60 manufacturers, 43 countries, over 2500 unique products

Currently: **PC/Display**

Imaging equipment

Television

Up next: **Servers**

Mobile devices

Photovoltaic panels

What is the benefit to users?

For Purchasers

A single, credible, easy-to-use, comparative environmental performance rating to address lifecycle environmental issues across product categories

For Industry

Consistent environmental performance criteria for design of products and services. Provides market rewards for design and service strategies that reduce products' environmental impact.

A Lifecycle Approach

http://www.epeat.net/resources/criteria-discussion/

Summary of Criteria in Standards Used in EPEAT

	Computers/Displays (2009)		Imaging Equipment (2012)		Televisions (2012)	
	Required	Optional	Required	Optional	Required	Optional
Environmentally Sensitive Materials	**3**	**8**	**4**	**7**	**3**	**9**
Materials Selection	**3**	**3**	**4**	**3**	**3**	**3**
Design for End of Life	**6**	**5**	**7**	**2**	**5**	**6**
Product Longevity/Life Cycle Extension	**2**	**2**	**2**	**1**	**3**	**0**
Energy Conservation	**1**	**3**	**2**	**4**	**1**	**4**
End of Life Management	**2**	**1**	**2**	**2**	**2**	**2**
Corporate Performance	**3**	**2**	**2**	**3**	**2**	**3**
Packaging	**3**	**4**	**5**	**2**	**5**	**2**
Consumables	**-**	**-**	**4**	**2**	**-**	**-**
Indoor Air Quality	**-**	**-**	**1**	**0**	**-**	**-**
Total # Criteria	**23 Required**	**28 Optional**	**33 Required**	**26 Optional**	**24 Required**	**29 Optional**
	51 Total		**59 Total**		**53 Total**	

How are products rated in EPEAT?

- Products must meet all **required** criteria to qualify for EPEAT.
- Required criteria identify high environmental performance
- Products are rated Bronze, Silver or Gold based on how many **optional** criteria they meet,

Green (< 50%)

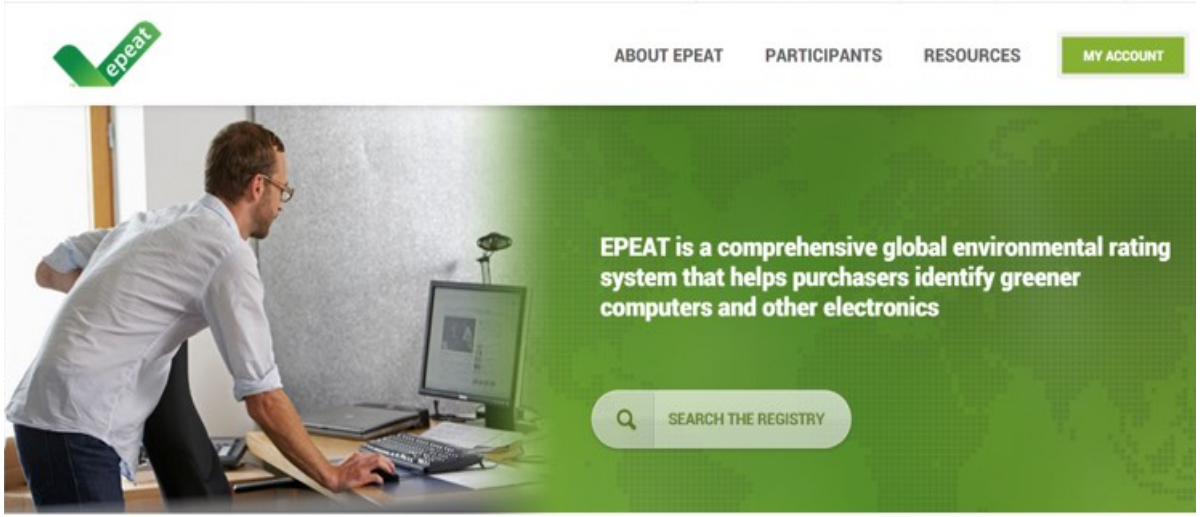
Greener (50-75%)

Greenest **(> 75%)**

Ratings are granted automatically by system software based on declaration

Central Registry at www.epeat.net

- Provides
  - "One stop shop" for purchasers to view all registered products
  - One visible performance standard for OEMs - competition
  - Comparison by product, by specific criteria, by company 'fleet'
  - Global coverage with country-specific detail - a single data source for multinational purchasers



Search function – dig down and compare

EPEAT Product Comparison

Back to Search Results

Criterion	Brand: Toshiba Model: eStudio507G Company: Toshiba Country: United States Rating: Gold Points: 19/25	Brand: Konica Minolta Model: bizhub C308 Company: Konica Minolta Country: United States Rating: Gold Points: 21/25	Brand: RICOH Model: MP 4054SPG Company: Ricoh Country: United States Rating: Gold Points: 19/25
4.1.2.1 Further reduction of the use of European Union RoHS Directive hazardous substances (cadmium)	YES	YES	YES
4.1.3.2 Use of non-mercury containing light sources	YES	YES	YES
4.1.4.1 Reduction of substances on the European Union REACH Candidate List of SVHCs	NO	YES	YES
4.1.6.2 Eliminating or reducing BFR/CFR content of printed circuit board laminates	NO	NO	NO
4.1.6.3 Eliminating or reducing BFR/CFR/PVC content of product	NO	NO	NO
4.1.7.1 Reduce fluorinated gas emissions resulting from flat panel display manufacturing	YES	YES	YES
4.1.8.1 Inventory of intentionally added chemicals residing in the product	YES	YES	YES

Search by optional criteria

Optional Criteria

- [ ] 4.1.2.1 - Further reduction of the use of European Union RoHS Directive hazardous substances (cadmium)
- [x] 4.1.3.2 - Use of non-mercury containing light sources
- [x] 4.1.4.1 - Reduction of substances on the European Union REACH Candidate List of SVHCs
- [x] 4.1.6.2 - Eliminating or reducing BFR/CFR content of printed circuit board laminates
- [ ] 4.1.6.3 - Eliminating or reducing BFR/CFR/PVC content of product
- [ ] 4.1.7.1 - Reduce fluorinated gas emissions resulting from flat panel display manufacturing
- [x] 4.1.8.1 - Inventory of intentionally added chemicals residing in the product
- [ ] 4.2.1.3 - Minimum 5% to 10% content of postconsumer recycled plastic
- [ ] 4.2.1.4 - Minimum 25% content of postconsumer recycled plastic
- [ ] 4.2.2.2 - Minimum content of biobased plastic material
- [ ] 4.3.1.2 - Ease of disassembly of consumer products
- [ ] 4.3.4.3 - Minimum 90% reusable/recyclable
- [ ] 4.4.2.1 - Product upgradeability
- [ ] 4.5.2.1 - Product specific greenhouse gas emissions – life cycle assessment
- [ ] 4.5.2.2 - Product specific greenhouse gas emissions — third party verification or making LCA assessment publicly available
- [ ] 4.5.3.2 - Auto standby capability

Best practice standards attributes

- Lifecycle, multi-attribute approach
- Tiering: serious baseline requirements plus higher level criteria to provide direction, reward effort
- Central information source, ability for detailed comparison
- Stakeholder involvement in development so it meets needs, accommodates (but pushes) capabilities

Representative Purchaser Users

- **National Governments** US, Canada, Australia, France, Poland, New Zealand, Singapore, Brazil, Costa Rica (Scotland)
- **States/Provinces** CA, CO, MA, ME, MI, MN, NY, OH, OR, PA, VT, WA, WI; Provinces of BC, NS, ON, QU; Warwickshire County (UK), Minas Gerais (Brazil), WSCA and US Communities collaboratives
- **Cities** San Francisco, Phoenix, San Jose, Vancouver, Seattle, Portland OR, LA County, Culver City CA, Keene NH, Leeds, UK
- **Enterprise** Charles Schwab, Deutsche Bank, Dignity Health System, Fairmount Hotels, Ford Motor Company, HDR, HSBC, Kaiser Permanente, KPMG, Marriott, McKesson, Microsoft, NBC-Universal, Nike, Saint Gobain, Societe Generale, Tesco, Wipro
- **Colleges/Universities** Of 300+ universities and colleges surveyed, 190 used EPEAT in their electronics purchasing decisions; of those, 70 purchased exclusively EPEAT-registered products.

Listing is for informational purposes only and does not imply endorsement

THANK YOU

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Poll Question #4

*What one additional resource would **most help you** advance your organization's safer products purchasing program?*

1. *Model policy language*
2. *Sample specifications*
3. *Sources of credible product toxicity info and alternatives*
4. *Hands-on technical support*
5. Webinars on specific product categories

Question & Answer Time

Amy Perlmutter
Lead Report Author
Perlmutter Associates

Colin Price
Director of Market Innovation
Oregon Environmental Council

Mary Dickinson
Regional Sustainable Design Leader
Perkins+Will

Alicia Culver
Director
Responsible Purchasing Network

Sarah O'Brien
Director of Global Stakeholder Engagement
Green Electronics Council

Moderator

Sam Hummel
Director of Outreach
& Operations
SPLC

Upcoming Events

Date	Organization	Host	Audience
Oct 21, 1-2:30 pm EDT	**IT Purchasing: Addressing Worker Health & Safety, Energy Use, Toxics, and Disposal** Presenters: • Carlos Busquets, Director of Public Policy, EICC • Stacey Foreman, City of Portland, Oregon • Luke Soules, iFixit • Ted Smith, International Campaign for Responsible Technology	*SPLC*	*SPLC Members Only*
Oct 28, 12-1 pm EDT	**Briefing: How Executive Order 13693 is Being Implemented within Federal Purchasing** Presenters: • Dee Siegel, White House Council on Environmental Quality • Kevin Funk, US General Services Administration	*SPLC*	*SPLC Members Only*
Nov 4, 1-2:30 pm EDT	**Purchasing for Zero-Waste** Presenters: • David Allaway, Oregon Dept. of Environmental Quality • Michele Grossman, Waste Management • Garrison Marr, Snohomish County • Mark Rossolo, UL Environment	*SPLC*	*SPLC Members Only*