Air Quality Overview

October 18, 2016

Air Quality Program Vision

The Air Quality Program is dedicated to ensuring healthy air quality for all of our state's communities.

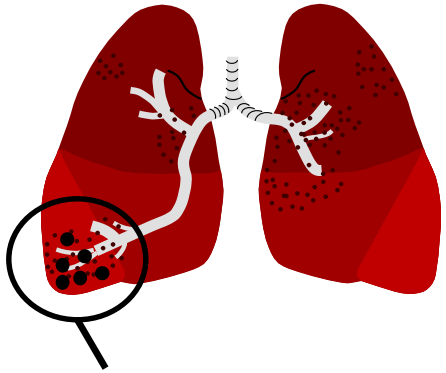
We do so by using good science, collaboration, and Oregon law.

Our work reflects our values of:

- *Leadership, partnership, integrity and commitment;*
- *Open and clear communication;*
- *Consistent implementation of federal and state regulations; and*
- *Empowering skilled staff to solve problems.*

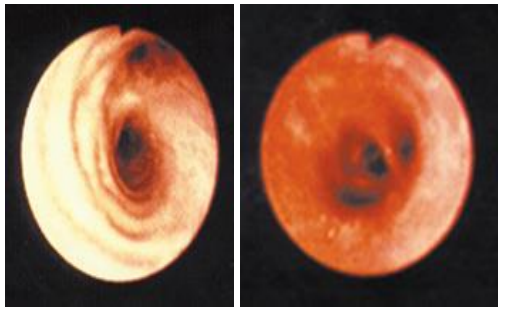
Air pollutants of concern in Oregon

Particulate Matter



Fine particles enter deeply into the lungs

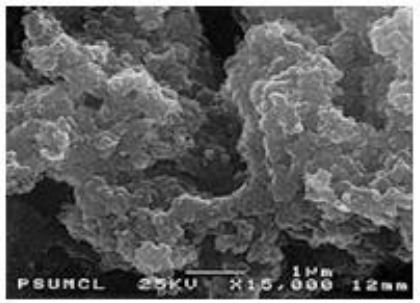
Ground Level Ozone



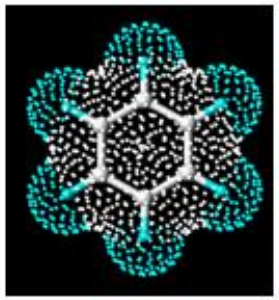
Healthy Airway **Inflamed Airway**

Pollution Affecting
Climate Change and Ecosystems

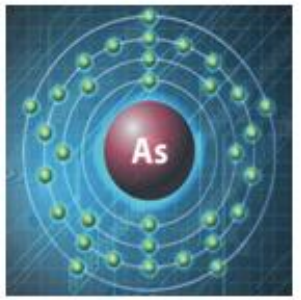
Toxic Pollutants



Diesel Particulate

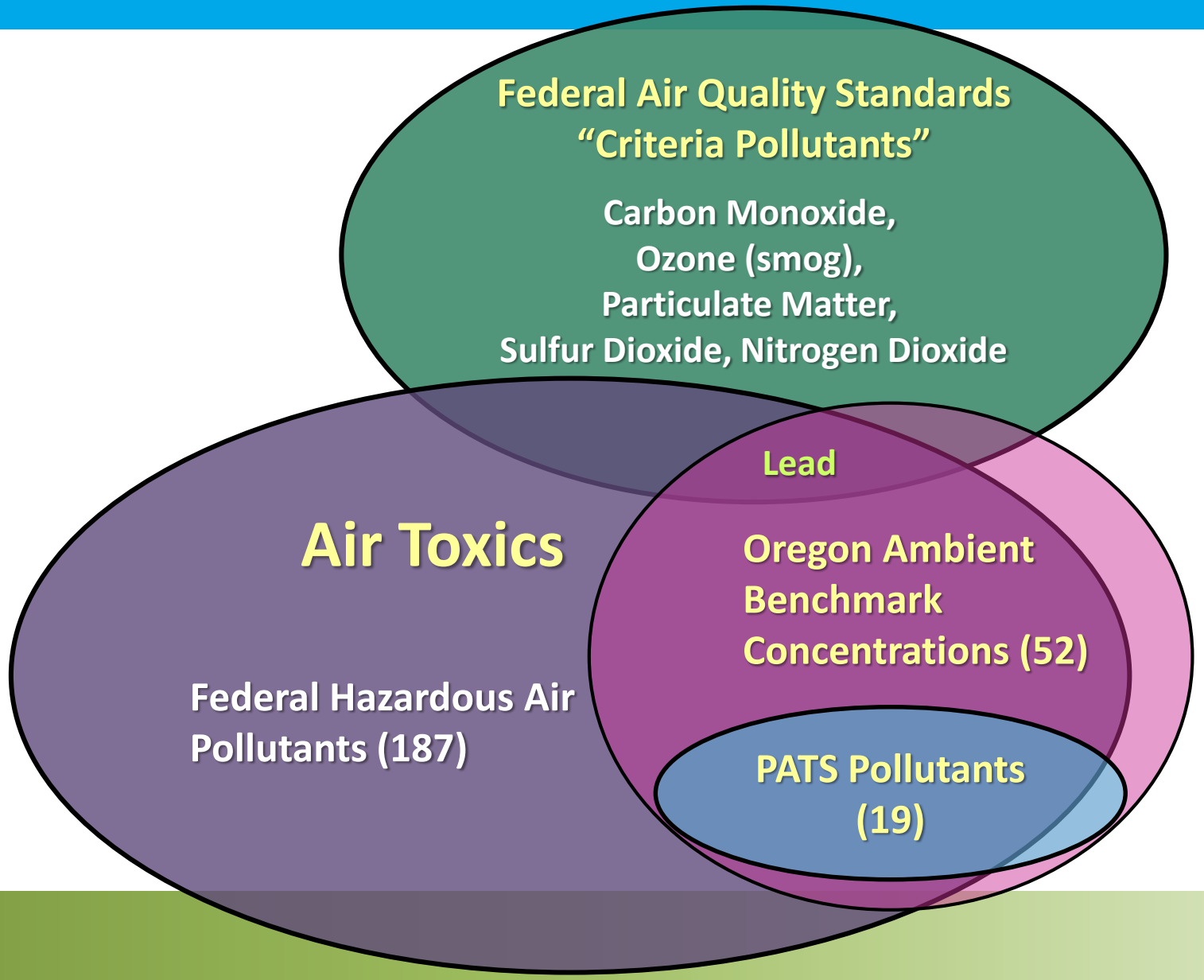


Benzene



Arsenic

Criteria Pollutants and Air Toxics



Actions to reduce air pollution

Air Quality Program

Federal – State roles

	Clean Air Act	Oregon Initiatives
Ozone and Particulate	• Health based standards • Community clean air plans	• Community pollution prevention plans
Air Toxics	• Regulations for industry	• Benchmarks and monitoring • Community air toxics reduction planning • Clean diesel program • New health based permitting
Permitting	• Title V Permits for large facilities	• State permits for smaller facilities
Engines and Fuels	• Engine emission standards • Clean fuel standards	• Clean cars program • Vehicle inspection and maintenance
Climate Change	• CO2 reductions from power plants	• Clean Power Plan • Clean (low carbon) fuels • Greenhouse gas emission reporting • Cap and trade study

Air Quality Permits

Basic Air Contaminant Discharge Permits (104)

Simplest permits, smallest emitters

Rock Crushers, Asphalt Paving, Auto body Shops, Crematories

General Air Contaminant Discharge Permits (2083)

Simpler permits, small emitters

Gasoline stations, Dry Cleaners, Coffee Roasters, Grain Elevators

Simple Air Contaminant Discharge Permits (147)

Simple permits, small emitters

Data Centers, Metal Foundries, Wastewater Treatment Plants, Printers, Publishers

Standard Air Contaminant Discharge Permits (133)

Complex permits, medium emitters

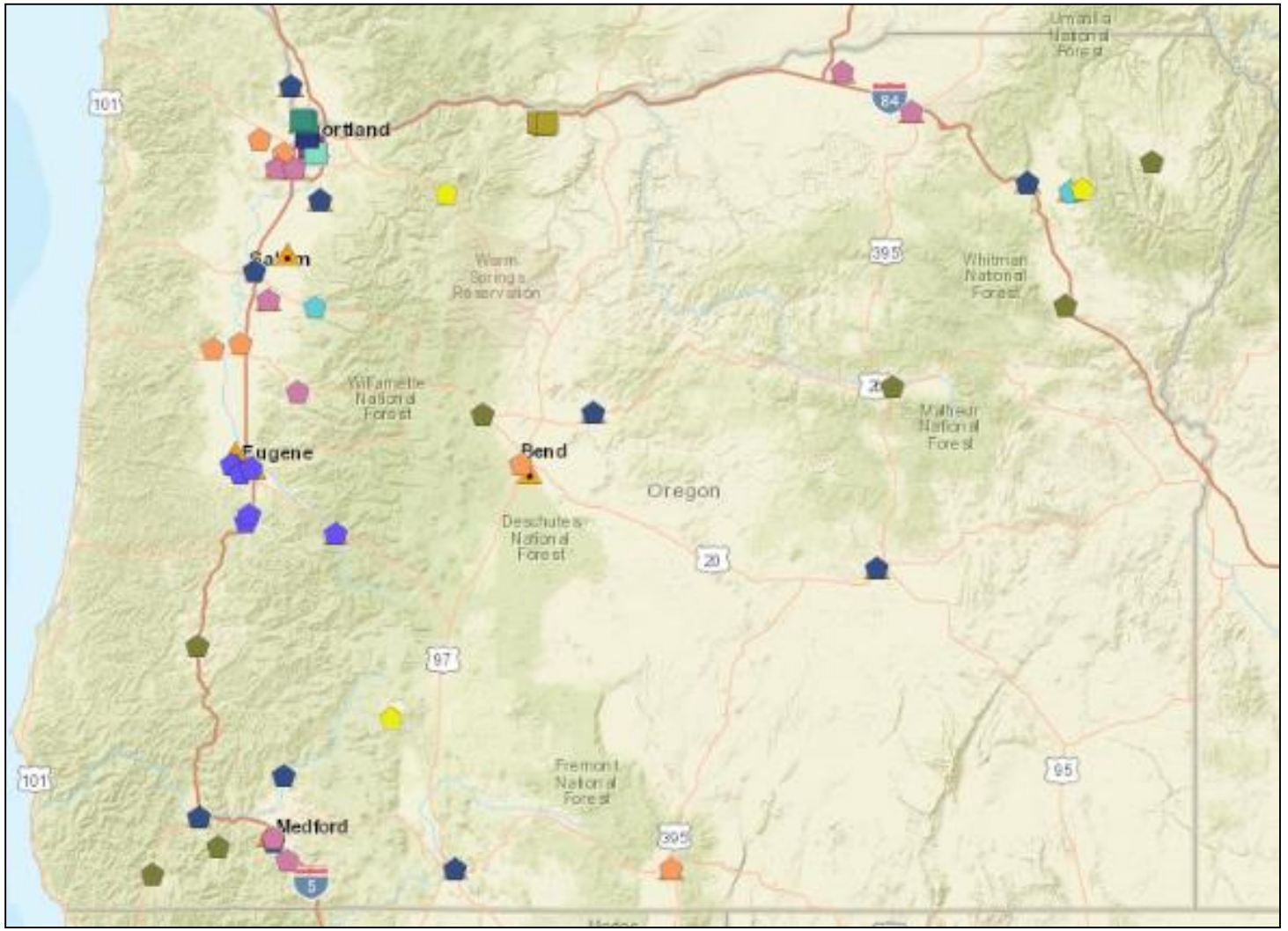
Particleboard, Plywood, Fuel Terminals, Semiconductor, Bakeries

Title V Permits (109)

Most complex permits, largest emitters

Electricity Generation, Landfills, Fiberglass, Pulp and Paper, Steel Mills

Assessing air quality – monitoring locations



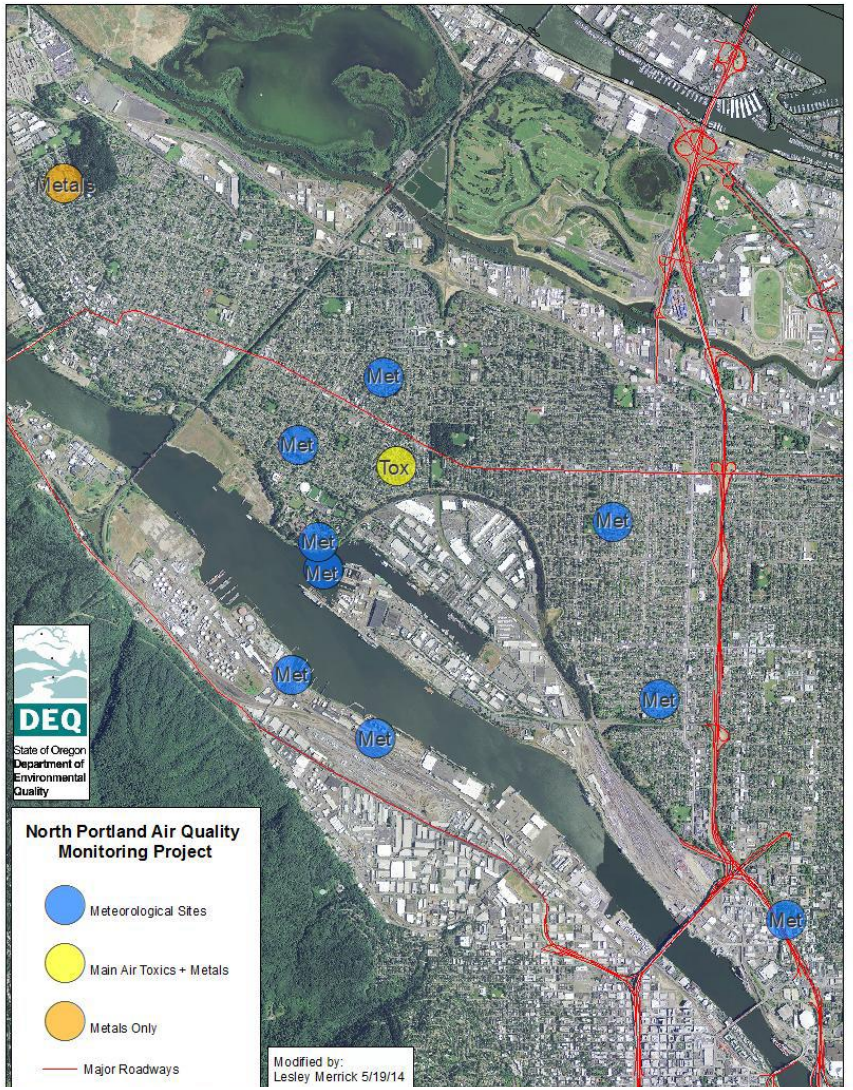
Air toxics monitoring

Air toxics monitoring equipment

Long-Term Trend Monitors
- Portland
- La Grande

Year-Long Assessments
- Medford
- Klamath Falls
- Hillsboro
- North Portland

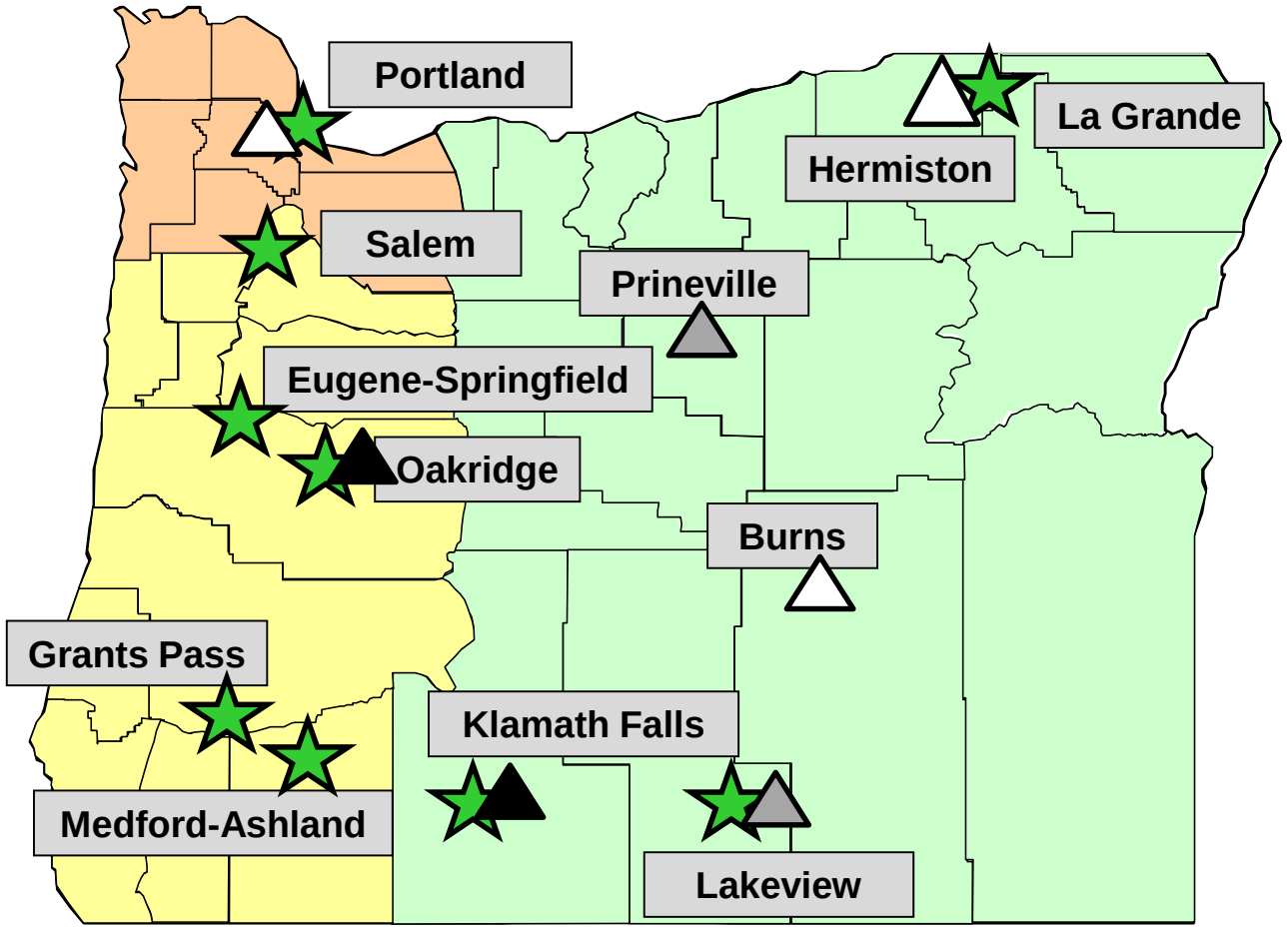
Special Studies
- North Portland
- SE Portland
- The Dalles

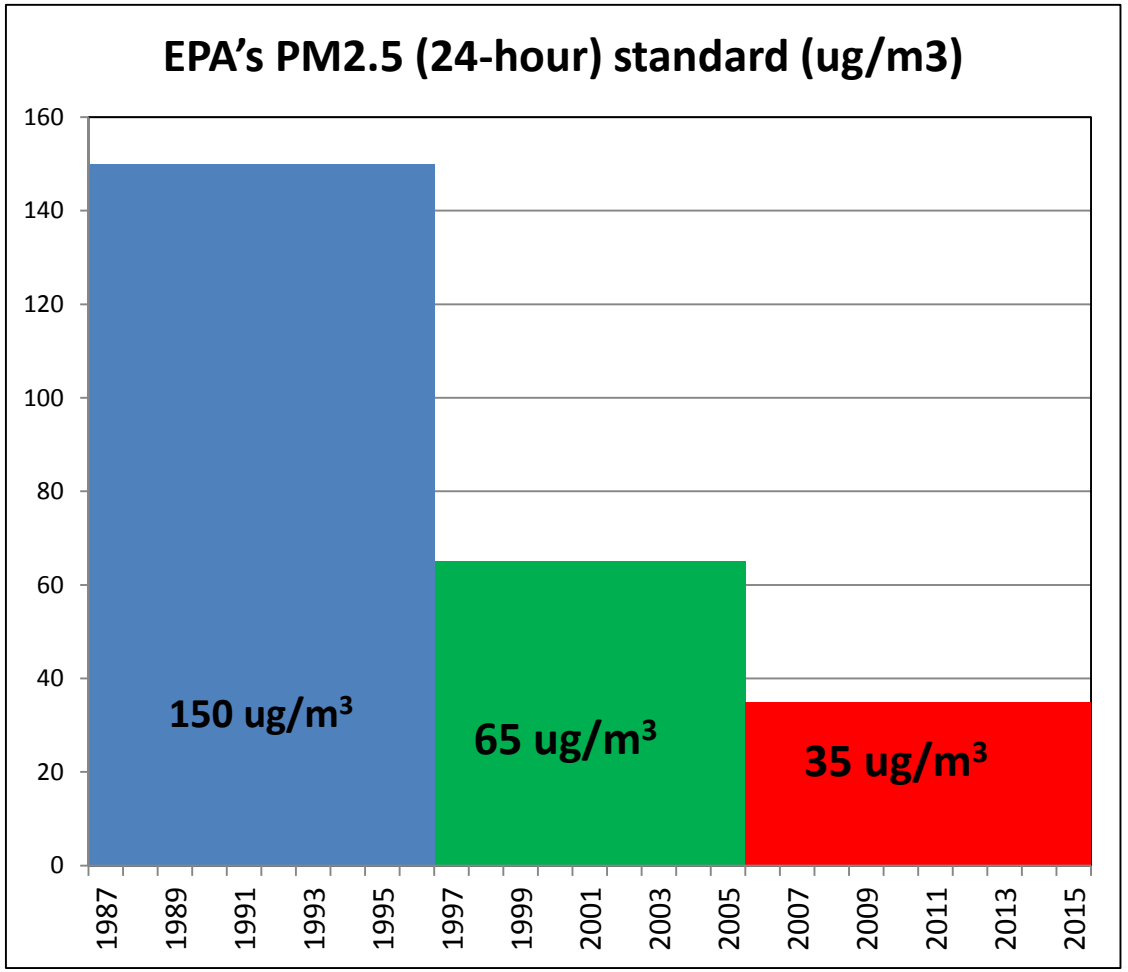


Community air toxics assessment in North Portland

http://www.deq.state.or.us/aq/forms/annrpt.htm

Progress meeting federal air standards





Ozone and particulate standards reached

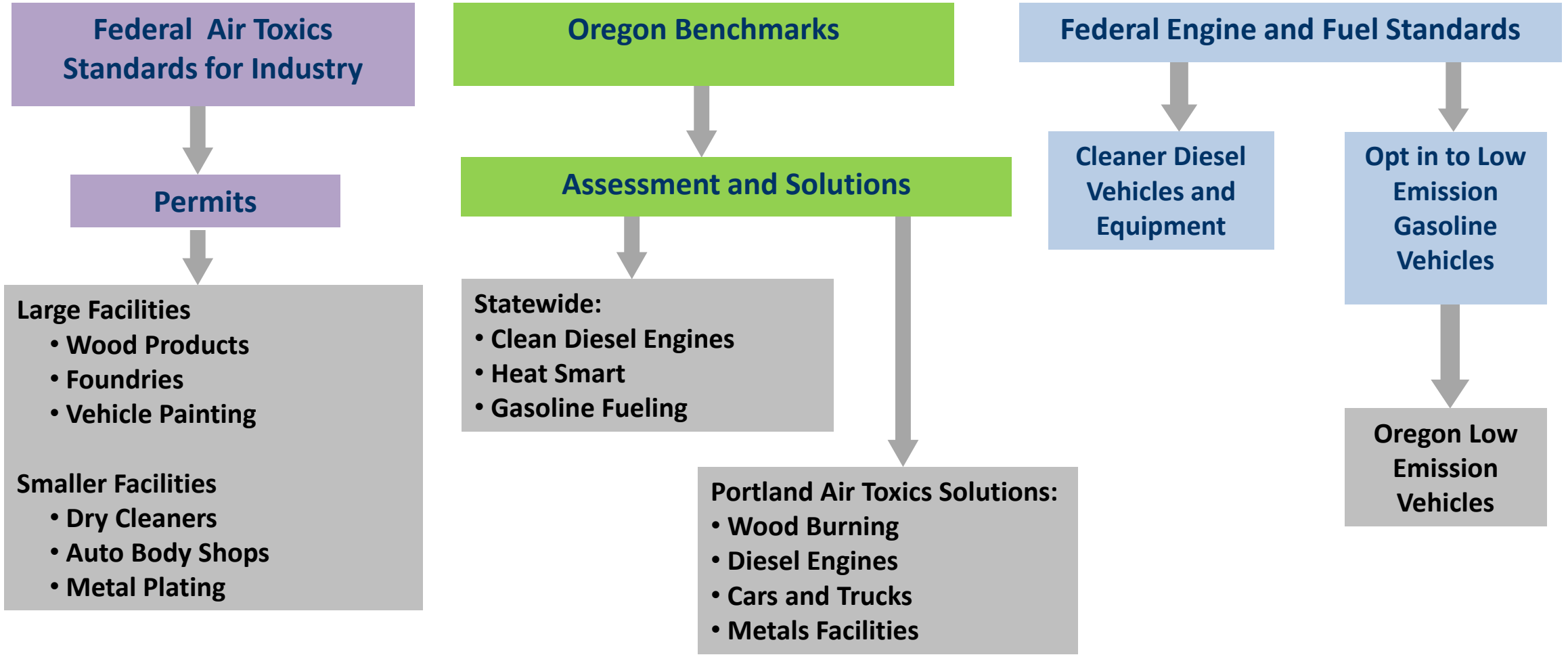
Exceeding particulate standard but no official violation

Particulate violation areas

Particulate and ozone areas of concern

Sources of toxic air pollutants

Oregon's Air Toxics Program



Multi-pollutant emission reductions

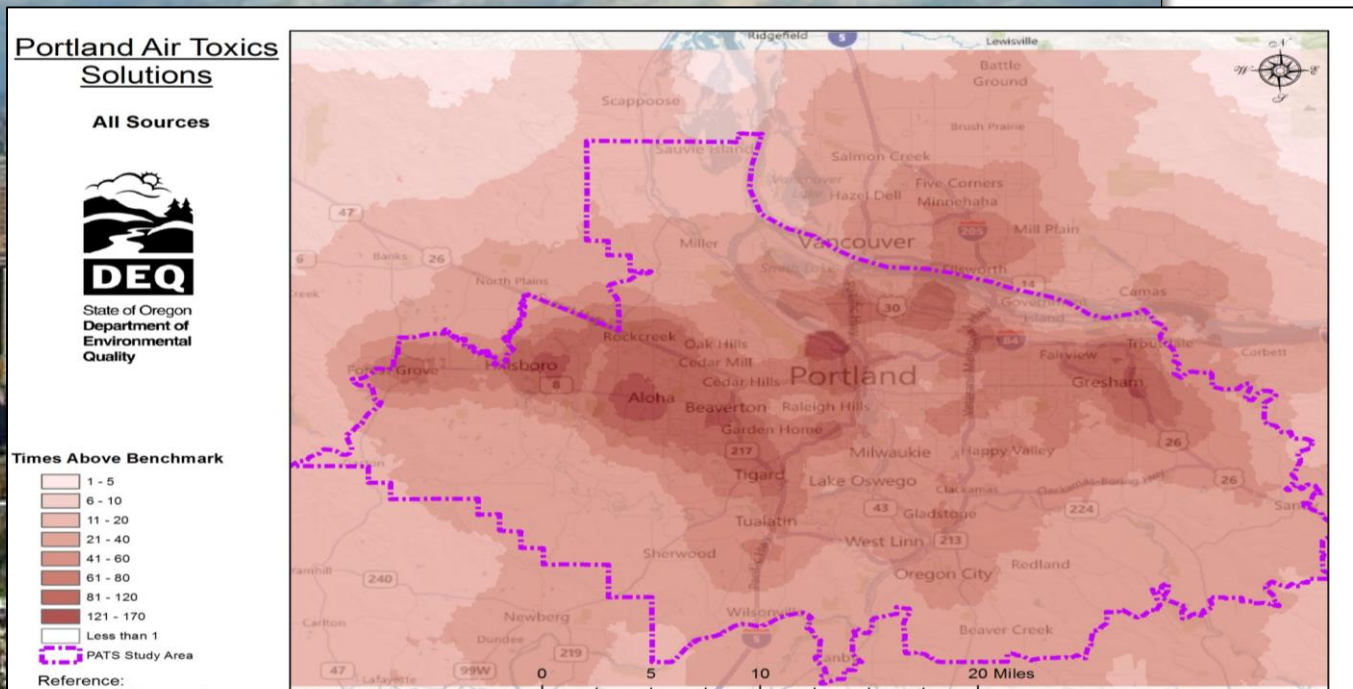
	Particulate	Air Toxics	Ozone	Greenhouse Gases	Regional Haze/Visibility
 Clean engines	✓	✓	✓	✓	✓
 Clean fuels	✓	✓	✓	✓	✓
 Smoke controls	✓	✓			✓
 Industrial regulations	✓	✓	✓	✓	✓

Portland Air Toxics Solutions

A geographic approach to understanding and reducing air toxics

Five priority categories for reduction:

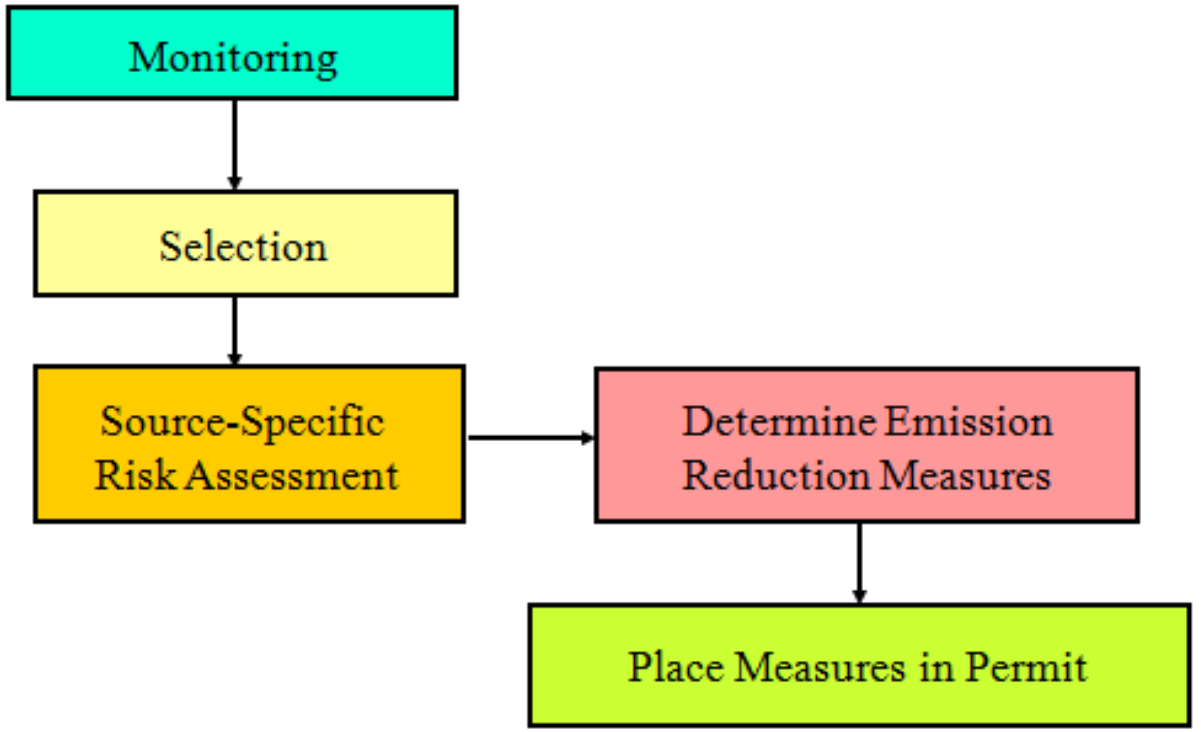
- Residential wood burning
- Cars and trucks
- Heavy duty vehicles
- Construction equipment
- Industrial metals facilities



Safety Net Program

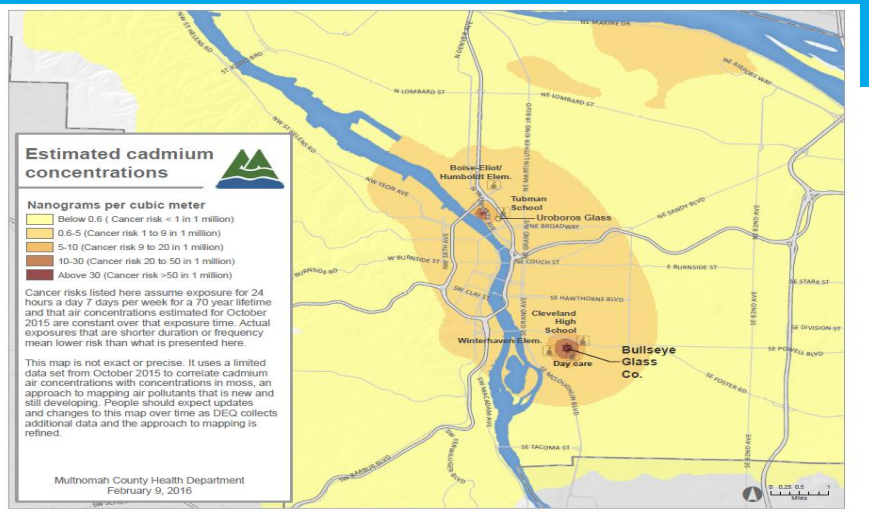
- Address potentially high risk emissions at stationary sources that are not covered by federal standards, geographic planning or state rules

- Rare cases

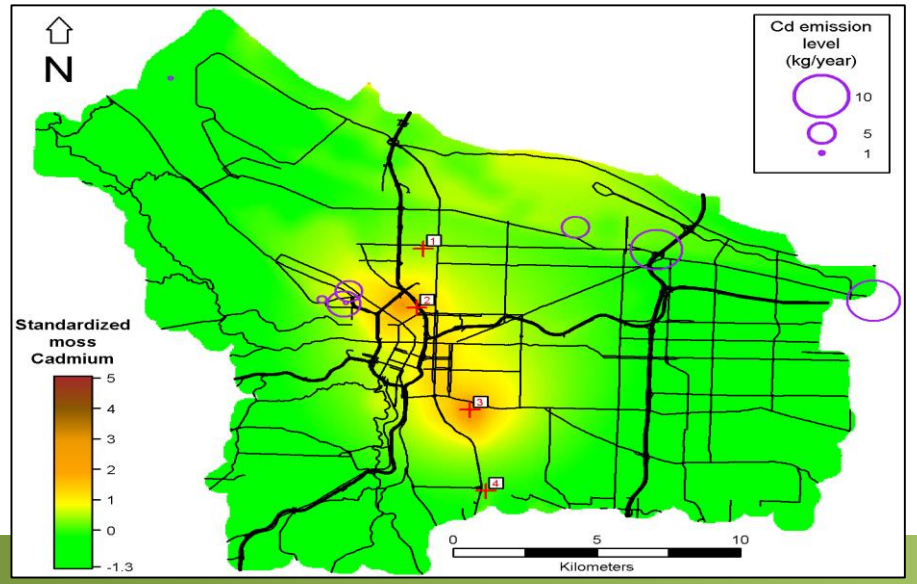


Portland Metals and Moss Study

http://www.sciencedirect.com/science/article/pii/S0048969716306052



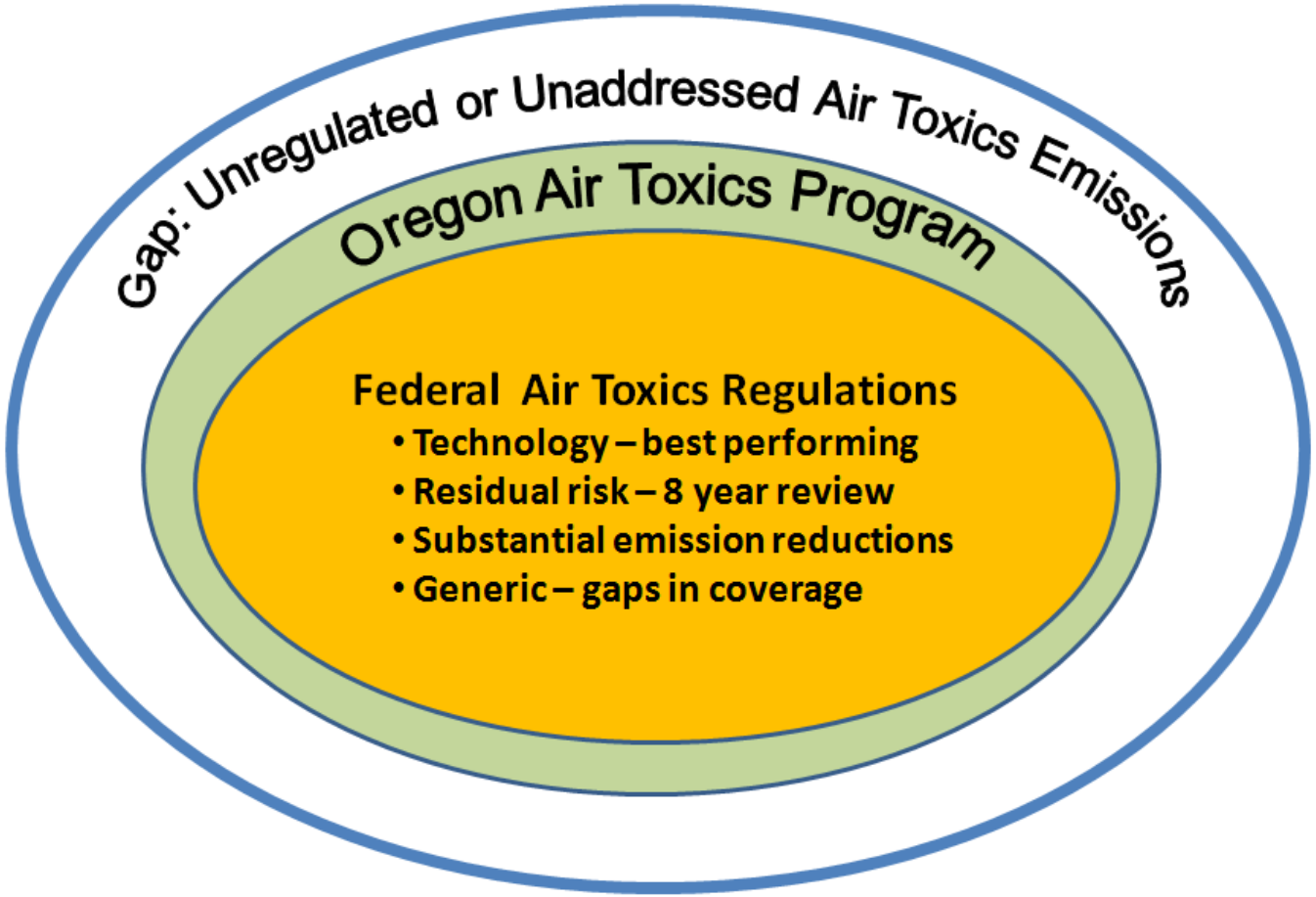
Estimated Cadmium Air Concentrations



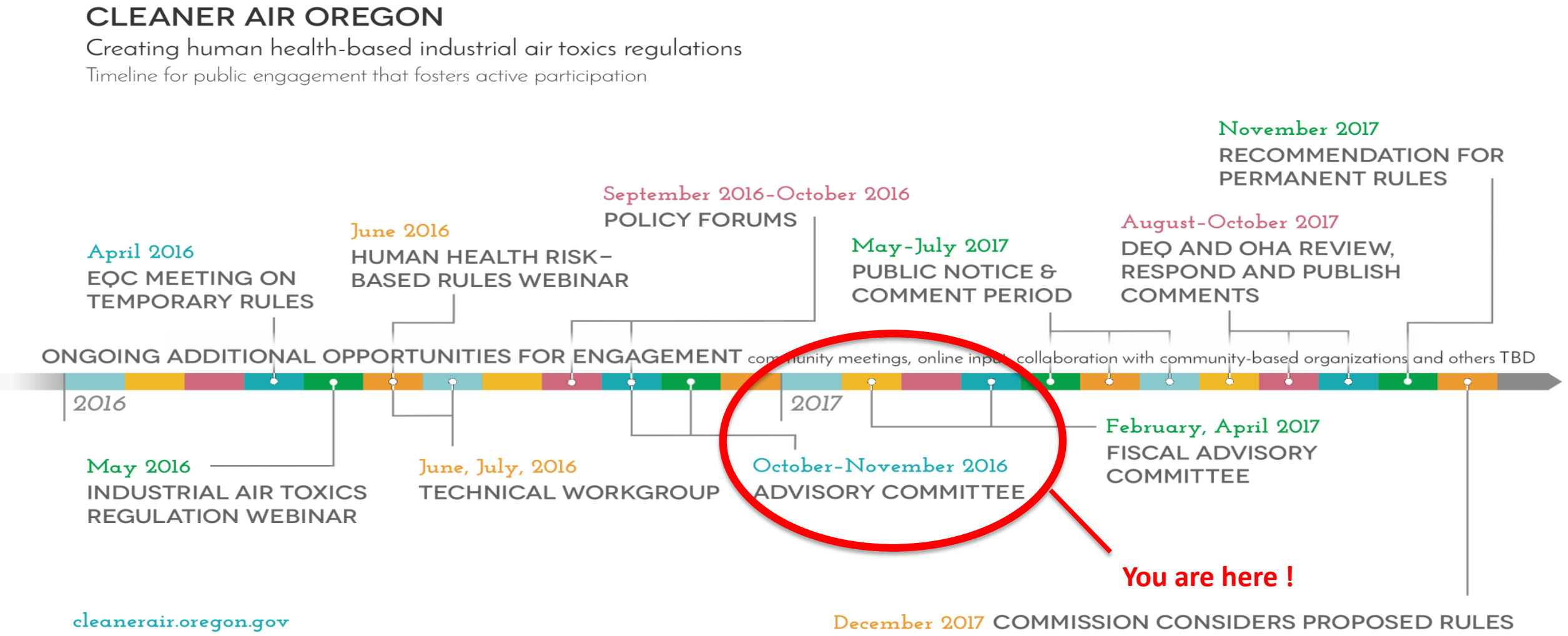
Cadmium Concentrations in Moss

DEQ Metals Monitor

What is the Industrial Facility Risk Gap?



Public engagement: formal process



Air Quality Overview

Any Questions?