

Draft Fiscal Impact Statement

Cleaner Air Oregon

REFORMING OREGON'S INDUSTRIAL AIR QUALITY REGULATIONS

Inviting Oregonians to help create new regulations that protect what we all care about: the health of our people and our planet, and the economic vitality of our communities.

August 29th and 30th, 2017

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Topics Covered in this Discussion

- Overview of Fiscal Advisory Committee Process
- Summary of information in draft fiscal statement
- Description of cost information
- Description of health benefit information

Aug 29th

- Discussion of fiscal impact questions required in ORS 183.333, 335, and 540

Aug 30th

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What is Required?

- ORS 183.335: agency must provide notice of fiscal impact for proposed rules
 - Impacts can be both positive and negative
- If significant small business impact, consider mitigation

What is in the Fiscal Impact Statement?

- Available information to project significant effects on
 - State agencies
 - Local government
 - Small and large business
 - The public
- Significant impacts on businesses
- Cost of compliance for affected small business
- Housing cost

Fiscal Advisory Committee Process

Rule advisory committee:

- Reviews fiscal impact statement
- Provides recommendations on:
 - Draft rule's fiscal impact
 - Extent of that impact
 - Significant adverse fiscal impacts on small businesses and potential mitigation

DEQ:

- Records committee input
- Revises fiscal impact statement if necessary

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Draft Fiscal Impact Statement Methodology

- All Cleaner Air Oregon draft fiscal analyses are based on estimates
- Insufficient information to project specific impacts on all potentially affected businesses, government and people
- DEQ decided against using hypothetical scenarios to avoid generating incorrect information

Draft Fiscal Impact Statement Overview

- Business fiscal impacts
- Government
- Public
- Housing cost

Draft Fiscal Business Cost Ranges

Risk Assessment

- Look up table
- AERSCREEN
- AERMOD
- Health risk assessment

Other Requirements

- Annual or semi-annual reporting
- Source testing
- Community engagement

Emission Reduction

- Pollution control equipment
- Pollution prevention

Fees

- Base fee
- Activity fees (potential)
- Call-in fee (potential)

Business Cost Ranges – Risk Screening & Assessment

Task	Simple	Complex
Emissions inventory	\$0*-\$5,000	\$60,000
Level 1 Assessment Lookup Table Calculation Using Stack Heights and Exposure Location Distance	\$100	\$600
Level 2 Assessment –AERSCREEN modeling	\$5,000	\$35,000
Level 3 Assessment – AERMOD modeling	\$5,000	\$100,000
Level 4 Assessment -Health Risk Assessment	\$5,000	\$500,000

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*DEQ is doing emissions inventory for all the approximately 2,200 sources that have General and Basic Permits

Business Cost Ranges – Potential Emission Reduction Measures

Control Device Type	Types of Pollutants it can reduce	Examples of facilities where this is used	Initial costs		Annual Operating Costs	
			low	high	low	high
Fabric filter (baghouse)	PM, hazardous air pollutant (HAP) PM	Asphalt batch plants, concrete batch kilns, steel mills, foundries, fertilizer plants, and other industrial processes. Colored art glass manufacturers.	\$360,000 - \$18,500,000		\$180,000 - \$6,200,000	
Electrostatic precipitator (ESP)	PM, HAP PM	Power plants, steel and paper mills, smelters, cement plants, oil refineries	\$320,000 - \$7,100,000		\$100,000 - \$7,600,000	
Enclosure	Fugitive PM or volatile organic compounds (VOCs)	Any process or operation where total emissions capture is required, i.e., printing, coating, laminating	\$14,000 - \$420,000		\$400 - \$10,000	
HEPA filter	Chrome emissions	chrome plating	\$13,000 - \$240,000		Application specific	
Wet scrubber (packed towers, spray chambers, Venturi scrubbers)	Gases, vapors, sulfur oxides, corrosive acidic or basic gas streams, solid particles, liquid droplets	Asphalt and concrete batch plants; coal-burning power plants; facilities that emit sulfur oxides, hydrogen sulfide, hydrogen chloride, ammonia, and other gases that can be absorbed into water and neutralized with the appropriate reagent.	\$25,000 - \$170,000		\$19,000 - \$830,000	

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Business Cost Ranges – Administrative Requirements

Estimated Costs:

- Reporting Costs: \$120 to \$1,200/year
- Community Engagement Meeting Costs: \$1,400 to \$6,400/meeting



Business Cost Ranges – Fees

Alternative 1

- 27.6% CAO base fee

Alternative 2

- 23.6% CAO base fee
- \$10,000 Call-in Fee (Title V, Standard ACDPs)
- \$500 Call-in Fee (Simple, General and Basic ACDPs)
- Specific Activity Fees

Business Cost Ranges – Fees

ACTIVITY	SPECIFIC ACTIVITY FEES							
	Title V		Standard		Simple		General/Basic	
	TEU	FACILITY	TEU	FACILITY	TEU	FACILITY	TEU	FACILITY
Call-In Fee (Fee Option 2)		\$10,000		\$10,000		\$500		\$500
LEVEL 1 TEU1/F1 Air Toxics Permit Attachment	\$590	\$1,500	\$590	\$1,500	\$520	\$1,000	\$420	\$800
LEVEL 1 TEU2/F2 Air Toxics Permit Attachment	\$770	\$2,000	\$770	\$2,000	\$590	\$1,500	\$450	\$1,100
LEVEL 2 TEU1/F2 Air Toxics Permit Attachment	\$1,120	\$2,700	\$1,120	\$2,700	\$770	\$2,000	\$660	\$1,600
LEVEL 2 TEU2/F2 Air Toxics Permit Attachment	\$1,540	\$3,000	\$1,540	\$3,000	\$1,050	\$2,200	\$770	\$1,700
LEVEL 3 TEU1/F1 Air Toxics Permit Attachment	\$5,340	\$9,000	\$5,340	\$8,400	\$4,490	\$5,500	\$3,970	\$4,700
LEVEL 3 TEU2/F2 Air Toxics Permit Attachment	\$7,780	\$13,300	\$7,780	\$10,900	\$6,700	\$7,700	\$6,060	\$6,800
LEVEL 4 TEU1/F1 Air Toxics Permit Attachment	\$13,380	\$25,100	\$13,380	\$21,500	NA	\$13,100	NA	NA
LEVEL 4 TEU2/F2 Air Toxics Permit Attachment	\$13,600	\$29,900	\$13,600	\$24,300	NA	\$15,000	NA	NA
RISK REDUCTION PLAN/F3 Air Toxics Permit Attachment	NA	\$46,300	NA	\$44,800	NA	\$26,500	NA	\$26,500
CONDITIONAL RISK LEVEL/F3 Air Toxics Permit Attachment	NA	\$57,300	NA	\$57,300	NA	\$30,100	NA	\$30,100
SOURCE AMBIENT MONITORING PLAN/F3 Air Toxics Permit Attachment	NA	\$57,800	NA	\$57,800	NA	NA	NA	NA
SOURCE AMBIENT MONITORING PLAN (plan review, data analysis only)	NA	\$21,000	NA	\$21,000	NA	NA	NA	NA
TBACT Analysis	NA	\$6,000	NA	\$6,000	NA	\$3,000	NA	\$3,000
Source Sponsored Public Meetings (New Source >5 & < 10 in 1 MM)	NA	\$2,400	NA	\$2,400	NA	\$2,400	NA	\$2,400
Source Test Review	NA	\$5,900	NA	\$5,900	NA	\$5,900	NA	\$5,900
Postponement of Risk Reduction Fee	NA	\$4,100	NA	\$4,100	NA	\$2,000	NA	\$2,000
Director Consultation	NA	\$4,500	NA	\$4,500	NA	\$2,300	NA	\$2,300

Fiscal Benefits of Cleaner Air Oregon on Businesses

Fiscal Benefits:

- Pollution Prevention
- Environmental Services Sector



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Fiscal Benefits of Pollution Prevention

Pollution Prevention

- Reduced operating costs
- Reduced compliance costs
- Reduced liability
- Increased productivity
- Increased marketability as a "green" business; and
- Even possibly increased profits.

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Impacts on the general economy

Various studies on the Clean Air Act and SCAQMD regulations have shown that increased environmental regulations have been accompanied by economic growth.

Why include health in a fiscal analysis?

- The fiscal impact of the rule depends on the potential benefits as well as the potential costs
- Air toxics are associated with increased risk of many health outcomes that have a substantial economic and social burden in our state



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Information needed to evaluate the health impact of Cleaner Air Oregon

Which chemicals are currently emitted?
How much?

How much will emissions be reduced?
Where?

How many people are exposed?
Who?

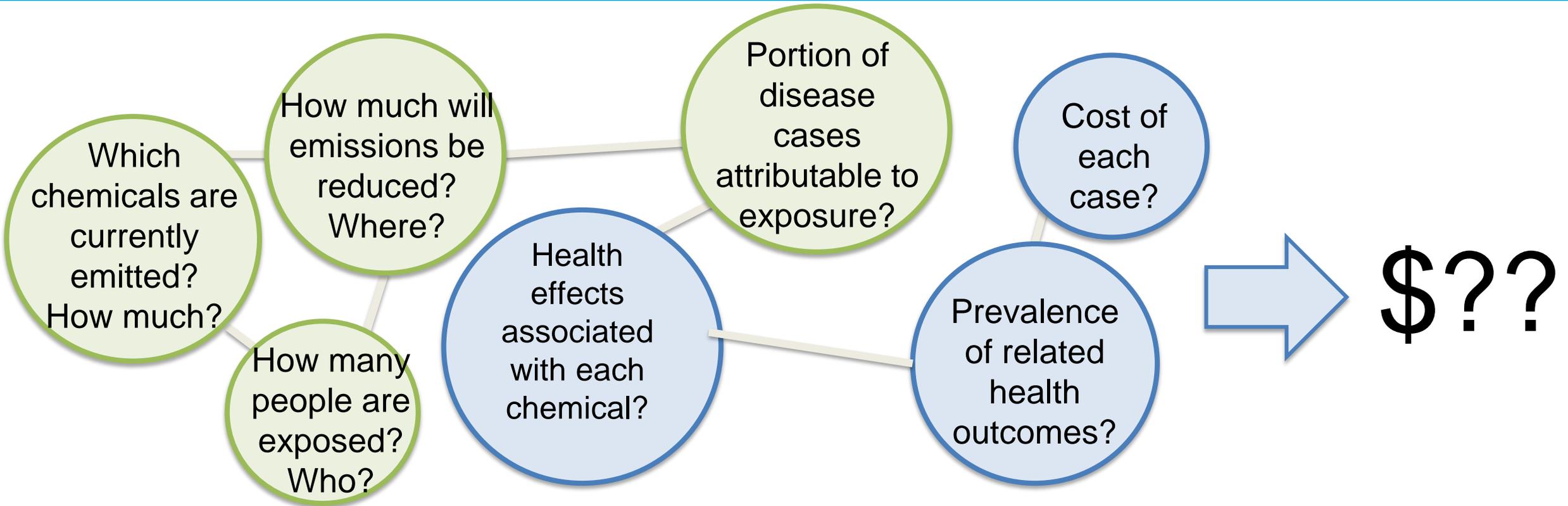
Health effects associated with each chemical?

Portion of disease cases attributable to exposure?

Cost of each case?

Prevalence of related health outcomes?

Information needed to evaluate the health impact of Cleaner Air Oregon



What does the fiscal analysis consider?

- **Potential health effects of air toxics**
 - Sensitive health outcomes that serve as the basis for RBCs
 - Other health outcomes that are less sensitive or less well characterized
- **Potential magnitude of the contribution of pollution to health**
 - National evidence on the health impact of living near industrial sites
 - Estimates of the fraction of specific diseases attributable to pollution
- **Burden of related diseases in Oregon**
 - Incidence
 - Economic cost

Potential health effects of air toxics

Air toxics increase risk of a wide range of health outcomes:

- heart disease
- respiratory disease
- cancer
- liver disease
- premature birth
- birth defects
- miscarriage
- impaired fertility
- neurological effects
- intellectual disability
- reduced immune function



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Potential magnitude of the contribution of pollution to disease

Living near industrial sites can measurably increase risk for:

- premature death
- cardiovascular disease
- autism
- asthma
- cancer



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Potential contribution of pollution to disease

Improved air quality can improve public health

- In Southern California, air pollution control efforts were accompanied by meaningful improvements in children's respiratory health
- The temporary closure of a steel mill in Utah Valley was linked to temporary improvements in birth outcomes and respiratory health
- Federal regulations on leaded gasoline resulted in a dramatic decrease in blood-lead levels in children across the country

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Potential contribution of pollution to disease

National estimates of the fraction of disease caused by pollution

Health Outcome	Type of Pollution	Attributable Fraction of Cases	Estimated annual cost nationally (1997) of cases attributable to pollution
Childhood asthma	Outdoor air pollution (industrial and nonindustrial sources)	10-30%	\$0.7-2.3 billion
Childhood cancer	Chemicals in the environment	2-10%	\$132-663 million
Neurodevelopmental disorders	Chemicals in the environment (excluding lead)	5-20%	\$4.6-18.4 billion
Lead Poisoning	Lead	100%	\$43.4 billion

Total Burden of disease in Oregon (All Causes)

Direct medical costs of chronic disease in Oregon

Chronic Disease	Annual Cost
Asthma (adults and children)	\$411 million/year
Cancer (adults only)	\$1.9 billion/year
Cardiovascular Disease (adults only)	\$3.6 billion/year



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Total Burden of disease in Oregon (All Causes)

Adverse birth outcomes in Oregon

Outcome	Total # of pregnancies impacted by each outcome in Oregon, 2009-2013
Low birth weight	14,239
Pre-term birth	17,442
Miscarriage (after 20 weeks gestation)	978
Birth anomalies	2,831



Other considerations

- People who experience the health burden may be different from the people who benefit from ability to emit air toxics above RALs.
- Many of the indirect costs and broader social costs of disease are particularly difficult to quantify.
- Risk-based air toxics permitting regulations could also significantly improve the health of workers.

Summary

- Air toxics are known to increase risk of a wide range of health outcomes
- Pollution has the potential to make a substantial, measureable contribution to disease
- DEQ and OHA don't know what proportion of chronic diseases may be attributable to industrial air toxics, but chronic diseases have a substantial social and economic impact in Oregon.

RAC Discussion



Discussion of Draft Fiscal Impact Statement

Advisory committee to provide recommendations on:

- Will the draft rule have a fiscal impact?
- What is the extent of that impact?
- Will the draft rules have a significant adverse impact on small businesses and if so, what are recommendations for potential mitigation?

Draft Fiscal Business Cost Ranges

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Draft Fiscal Small Business Impacts

- Will there be a significant adverse effect on small business?
- Consistent with public health and safety, can impacts be reduced by less intrusive or costly alternatives?

Examples:

- Different compliance or reporting requirements or schedules
- Clarifying, consolidating or simplifying the compliance and reporting requirements
- Using objective criteria for standards
- Exempting small businesses from rule requirements

Draft Fiscal Small Business Impacts

Fiscal impact mitigation in discussion draft rules:

- Tiered implementation
- Conditional risk levels
- Additional time for compliance with risk levels
- Defer compliance with risk levels if technology not available
- Director consultation when above upper limit risk levels
- Postponement of control measure installation if inability to pay

Draft Fiscal State Agency and Local Government Impacts

Government

- Direct effects – fees and compliance for government owned facilities
- Indirect effects – goods and services

DEQ and OHA Workload

- Required resources
- Resolution of historic health concerns

Draft Fiscal Public Impacts

Public Health
Benefits

Environmental
Services Sector
Impacts

Public Costs

Housing Cost

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Questions?

