Air Toxics Programs Alignment Rulemaking

Rules Advisory Committee Meeting

Oregon Department of Environmental Quality

11.10.20

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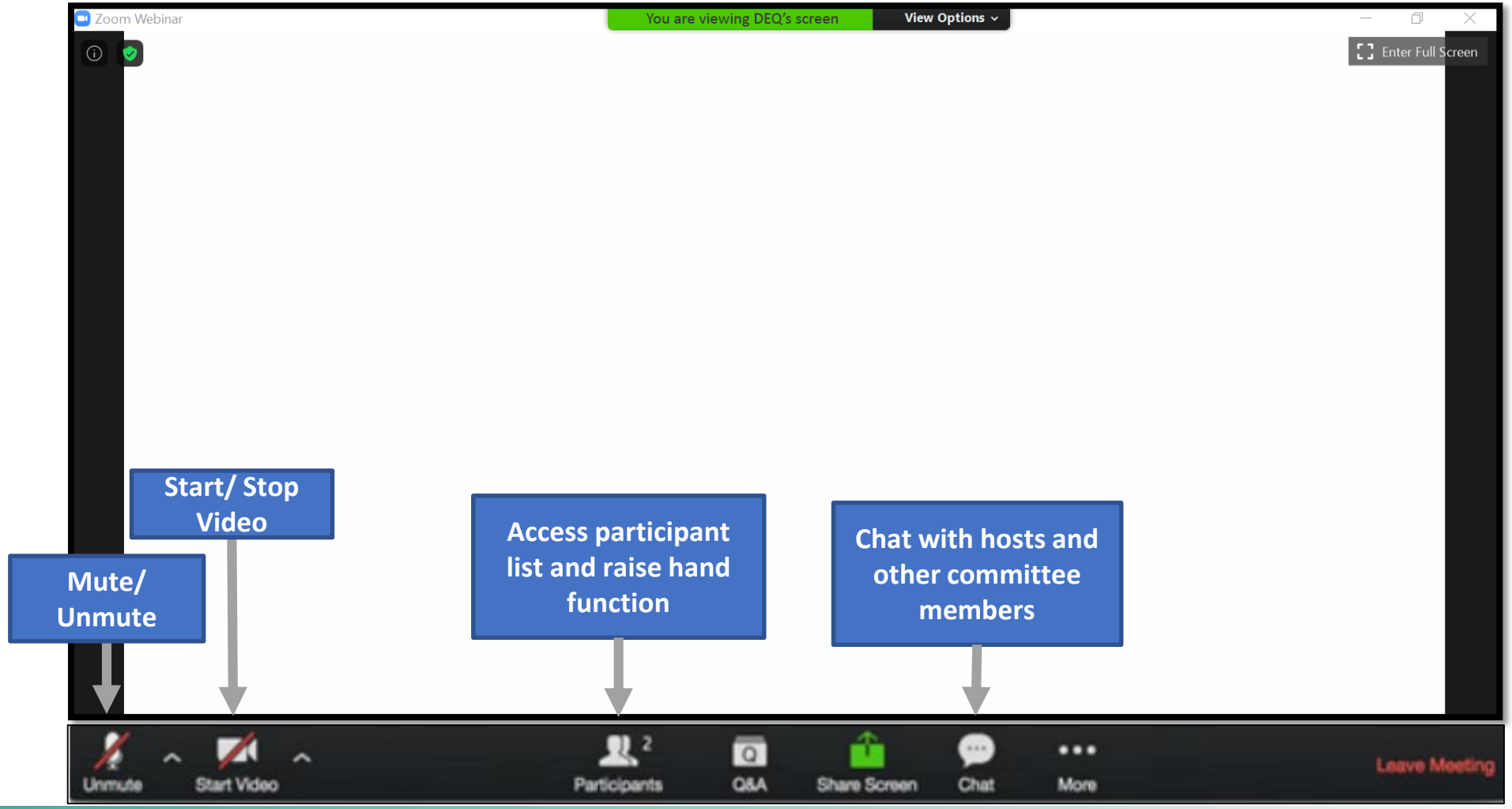
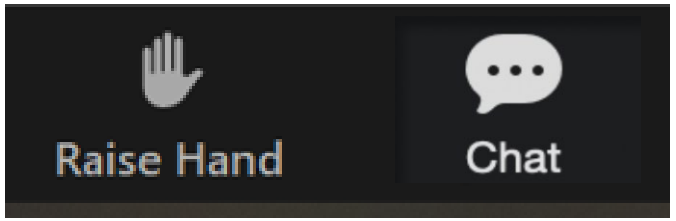
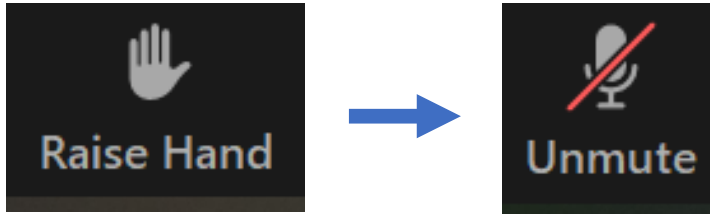
Committee Member Participation



Questions?





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Opportunities for Public Participation

- Welcome! And thank you for your interest in attending today's committee meeting
- Limited participation today
- Public comment period allocated during next week's session (time permitting)
- Opportunities for public comment early next year

More info: ORDEQ.org/AirToxics2021

Meeting purpose

DEQ is seeking input from the advisory committee to better integrate Cleaner Air Oregon and the Oregon Air Toxics program.

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Today		Next Week	
Update the process for setting and revising toxicity values for toxic air contaminants	Align DEQ's Air Toxics Program and the recently established Cleaner Air Oregon Program	Revisit items discussed today	Clarify certain CAO requirements for facilities and address inefficiencies in the risk assessment process

Today's Agenda: Part 1

8:00 a.m.	**Welcome & Meeting Logistics**
8:05 a.m.	**Opening Remarks** • Ali Mirzakhalili, Air Quality Administrator, DEQ • Gabriela Goldfarb, Environmental Public Health Manager, OHA
8:15 a.m.	**Rules Advisory Committee & Staff Introductions**
8:30 a.m.	**Meeting Protocols**
8:40 a.m.	**Overview of Rulemaking**
9:00 a.m.	**Overview of DEQ's Air Toxics Programs & Background on Toxicity Values**
9:55 a.m.	**20-minute break**

Today's Agenda: Part 2

10:15 a.m.	Rulemaking Goals for Toxicity Values
11:30 a.m.	RAC Roundtable
11:50 a.m.	Summary and Next Steps
12:00 p.m.	Adjourn

Opening Remarks

State of Oregon
DEQ Department of Environmental Quality

Ali Mirzakhalili
Air Quality Administrator

Oregon Health Authority

Gabriela Goldfarb
Environmental Public Health Manager

Today's Speakers

- **Department of Environmental Quality**
  - Keith Johnson
  - Meenakshi Rao, Ph.D.

- **Oregon Health Authority**
  - Holly Dixon, Ph.D.

Introductions

Steven Anderson
Lisa Arkin
George Conway
Chad Darby
Linda George
Kathleen Johnson
Christine Kendrick
Daniel Lee
Sharla Moffett
Mary Peveto
Diana Rohlman
Jessica Applegate
Kathryn VanNatta
Thomas Wood
Mark Riskedahl

Meeting Protocols

- Mute your phone/computer when you are not speaking
- Share video during introductions and discussions, disable during presentations
- Be respectful
- Listen so we can solve problems together
- Raise your virtual hand to speak
- Speak for yourself
  - Speak as though you are right, listen as though you *may be wrong*.
- Let others speak without interrupting them

Rulemaking Overview

Keith Johnson, Cleaner Air Oregon Program Manager

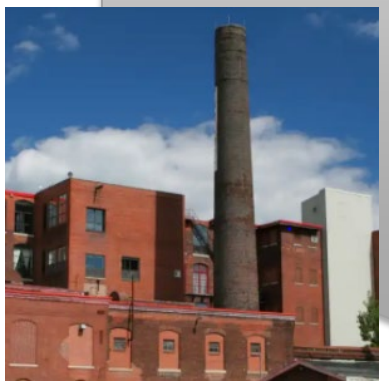
State of Oregon
DEQ Department of Environmental Quality

Two state programs for air toxics

Division 245
Cleaner Air Oregon

- Regulatory limits
- TRVs
- Triennial review of values by DEQ/OHA

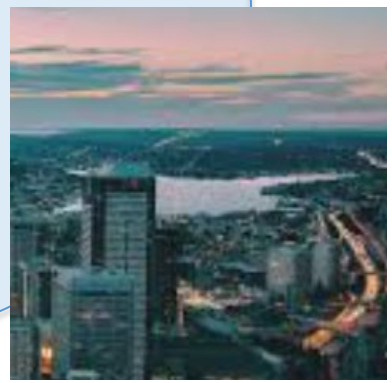
Permitted Sources



Division 246
Oregon Air Toxics Program

- Advisory only
- ABCs
- Ad hoc ATSAC review

Geographic Areas



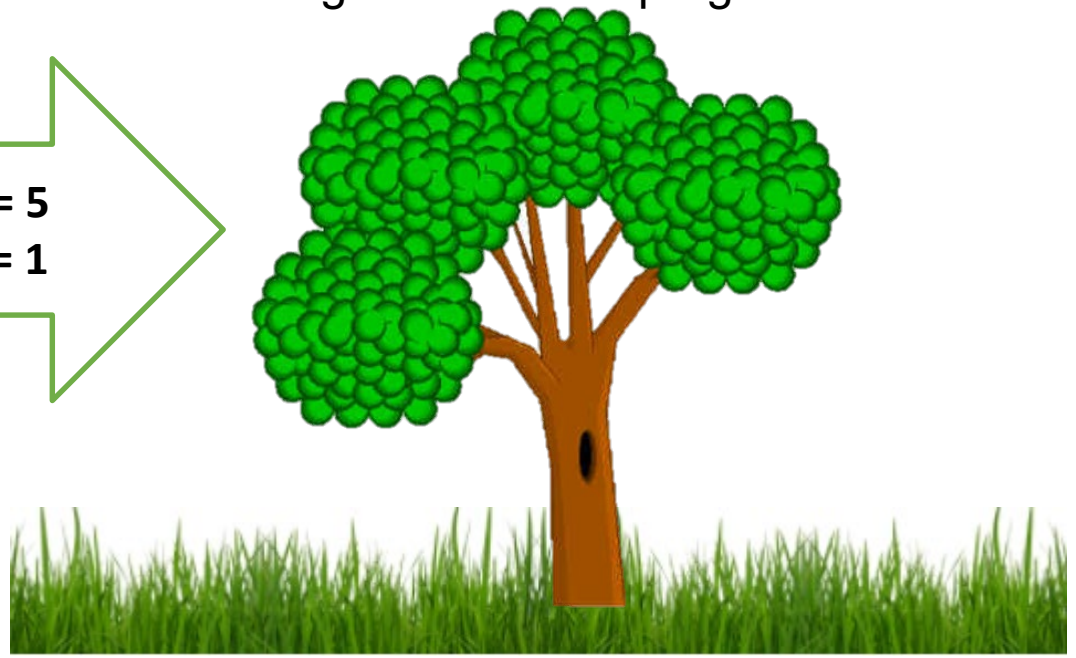
Current state

Division 245
Regulating Permitted sources via CAO

TRVs (from CA, ATSDR, EPA and DEQ)
updated by DEQ and OHA

Toxicity of chemical A = 5
Toxicity of chemical B = 1

Division 246
Geographic assessments and approaches via Oregon Air Toxics program



ABCs (from authoritative sources)
updated by ATSAC

Potential future state, if no action

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Regulating Permitted sources via CAO

Toxicity of A = 3
Toxicity of B = 3

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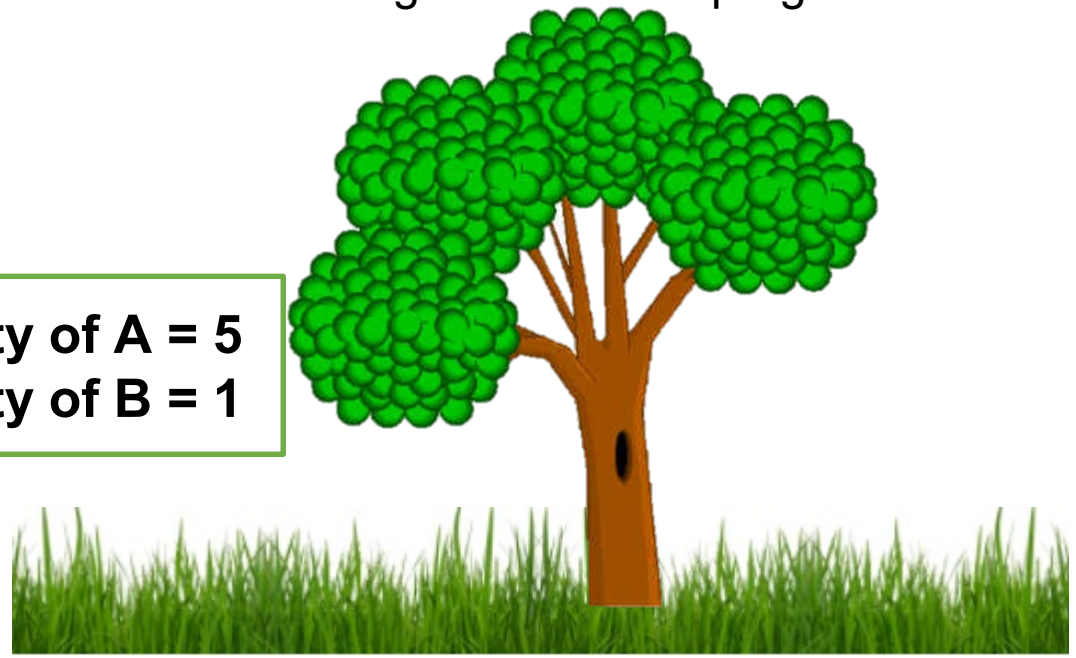

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Future integrated state

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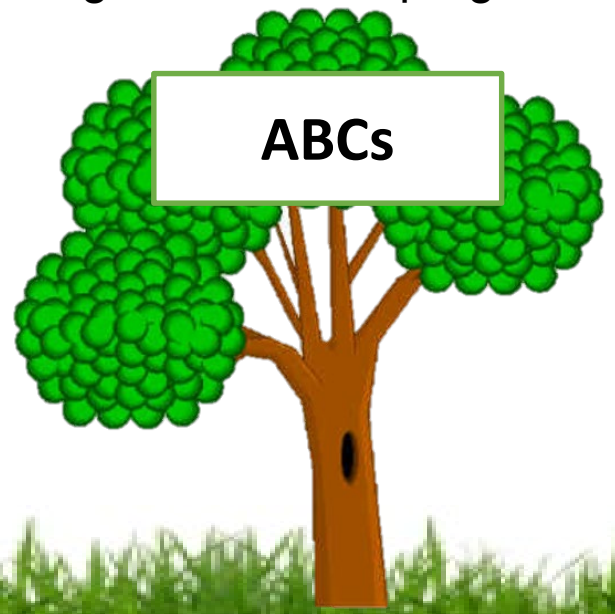
Geographic assessments and approaches via Oregon Air Toxics program



TRVs (from CA, ATSDR, EPA and DEQ) updated by DEQ and OHA
In consultation with revised ATSAC

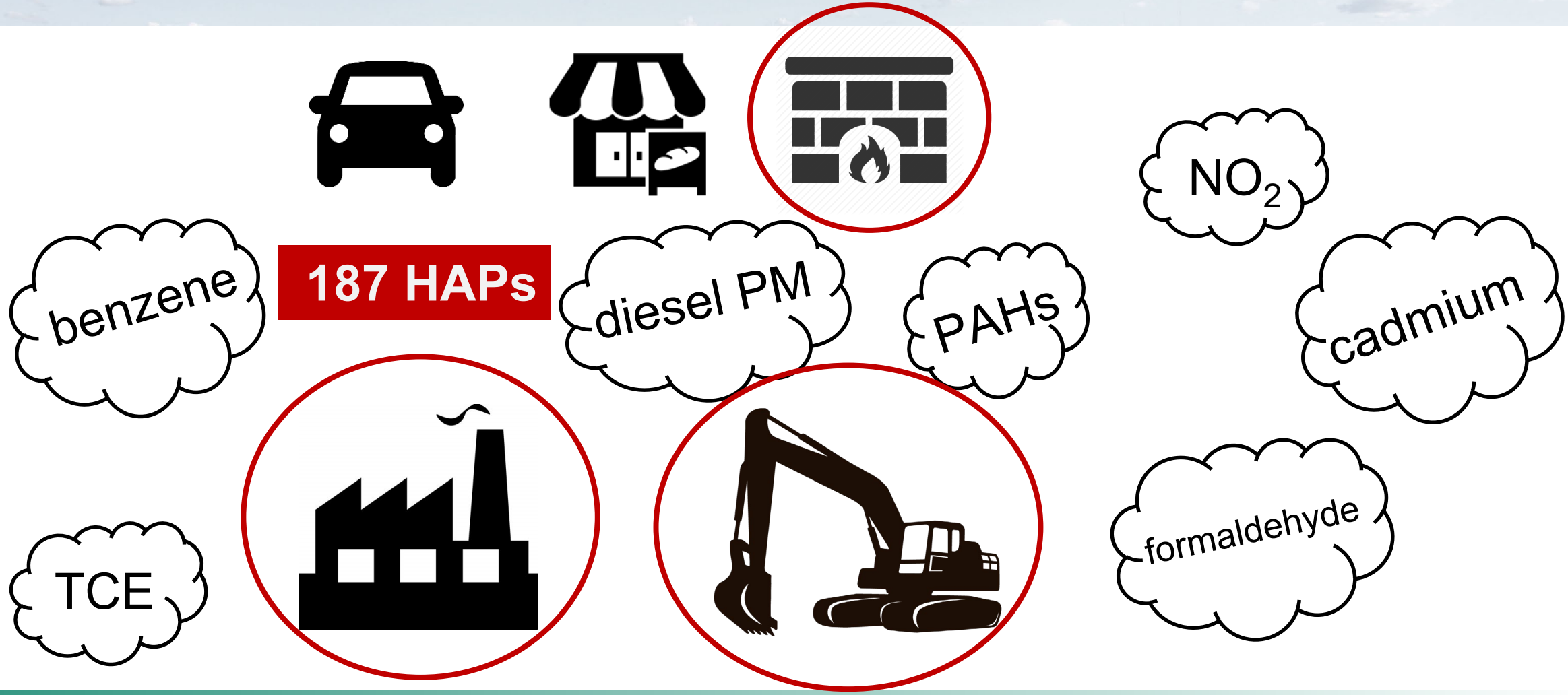
Toxicity of A =3 Toxicity of B = 3

Overview of DEQ's Air Toxics Programs

Meenakshi Rao, Ph.D.

State of Oregon
DEQ Department of Environmental Quality

Regulating chemicals in our air



Air Toxics Programs at DEQ

Division 244 Federal HAPs Program (1993)	Division 246 State Air Toxics Program (2003)	Division 245 Cleaner Air Oregon (2018)
187 HAPs	55 Air Toxics	250+ air toxics
Federal program	State program	State program
Regulations for emissions from industrial sources	Guidelines for ambient benchmark concentrations	Regulations for emissions from industrial sources
Limits on HAPs emissions	Planning framework to reduce ambient concentrations	Limits on emissions to reduce health-risk

Oregon State Air Toxics Program

Purpose

- Establish Ambient Benchmark Concentration values
- Using ABCs, assess air toxics risks in geographic areas
- Develop reduction plans using:
  - Geographic approach
  - Source category approach

Key elements of the Air Toxics Program

- Ambient benchmarks for Air Toxics
- Air Toxics Science Advisory Committee (ATSAC)
- Source Category rules
- Geographic Program
- Air Toxics Safety Net Program

Scope of this rule-making

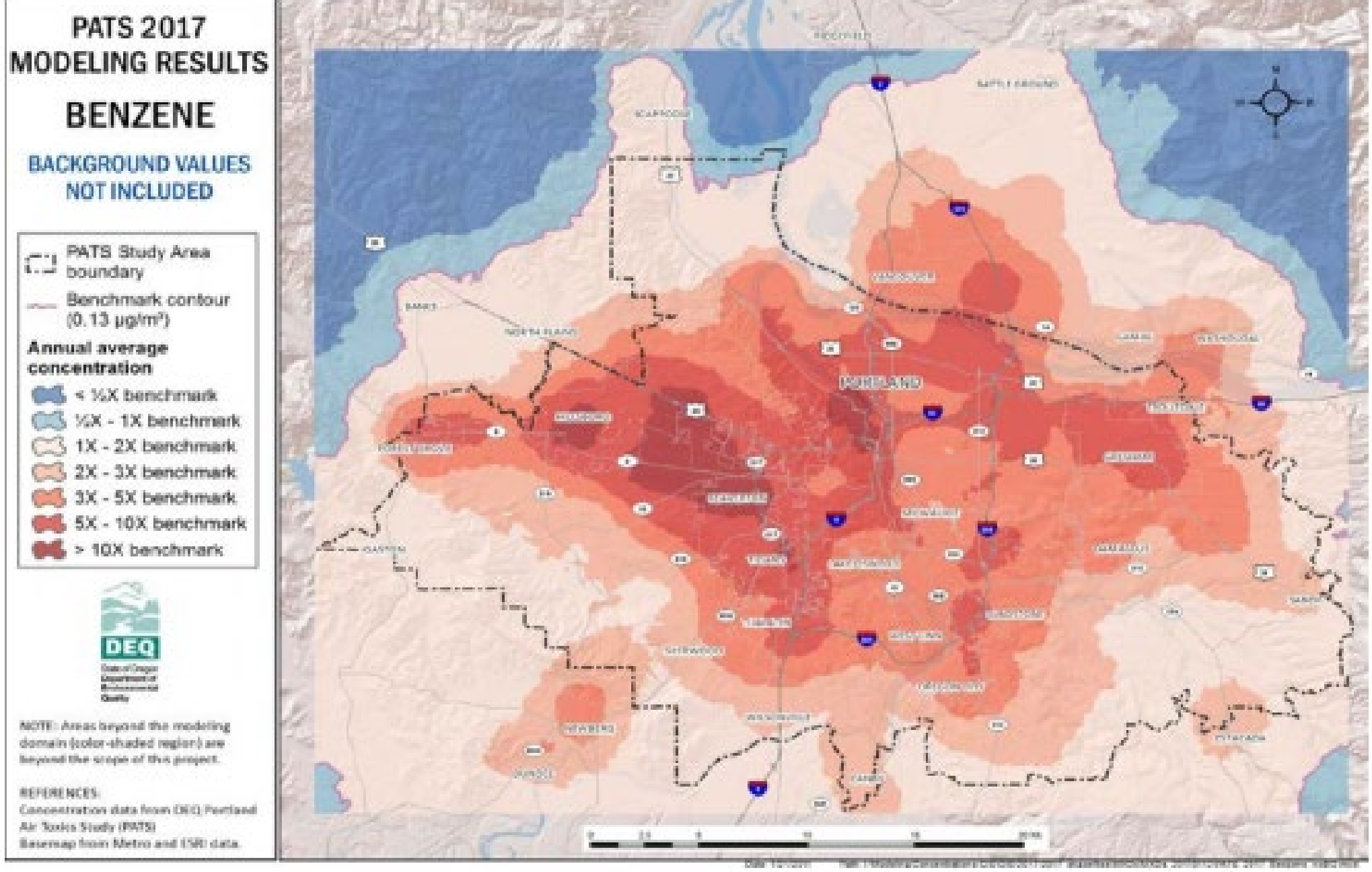
- Ambient benchmarks for Air Toxics
- Air Toxics Science Advisory Committee (ATSAC)
- Source Category rules and strategies
- Geographic Program
- Air Toxics Safety Net Program

Ambient Benchmark Concentrations (ABCs)

Purpose of the ABCs

- ABCs for 55 air toxics (a subset of the HAPs)
- Set based on recommendations of the Air Toxics Science Advisory Committee (ATSAC)
- Reference for assessing health-risk
- ABCs used by:
  - Geographic program
  - Source categories approach
  - Safety Net program

How are ABCs used?



Air Toxics Science Advisory Committee (ATSAC)

Key role:

Advise DEQ on ambient benchmarks for the Air Toxics program

Can be called on to:

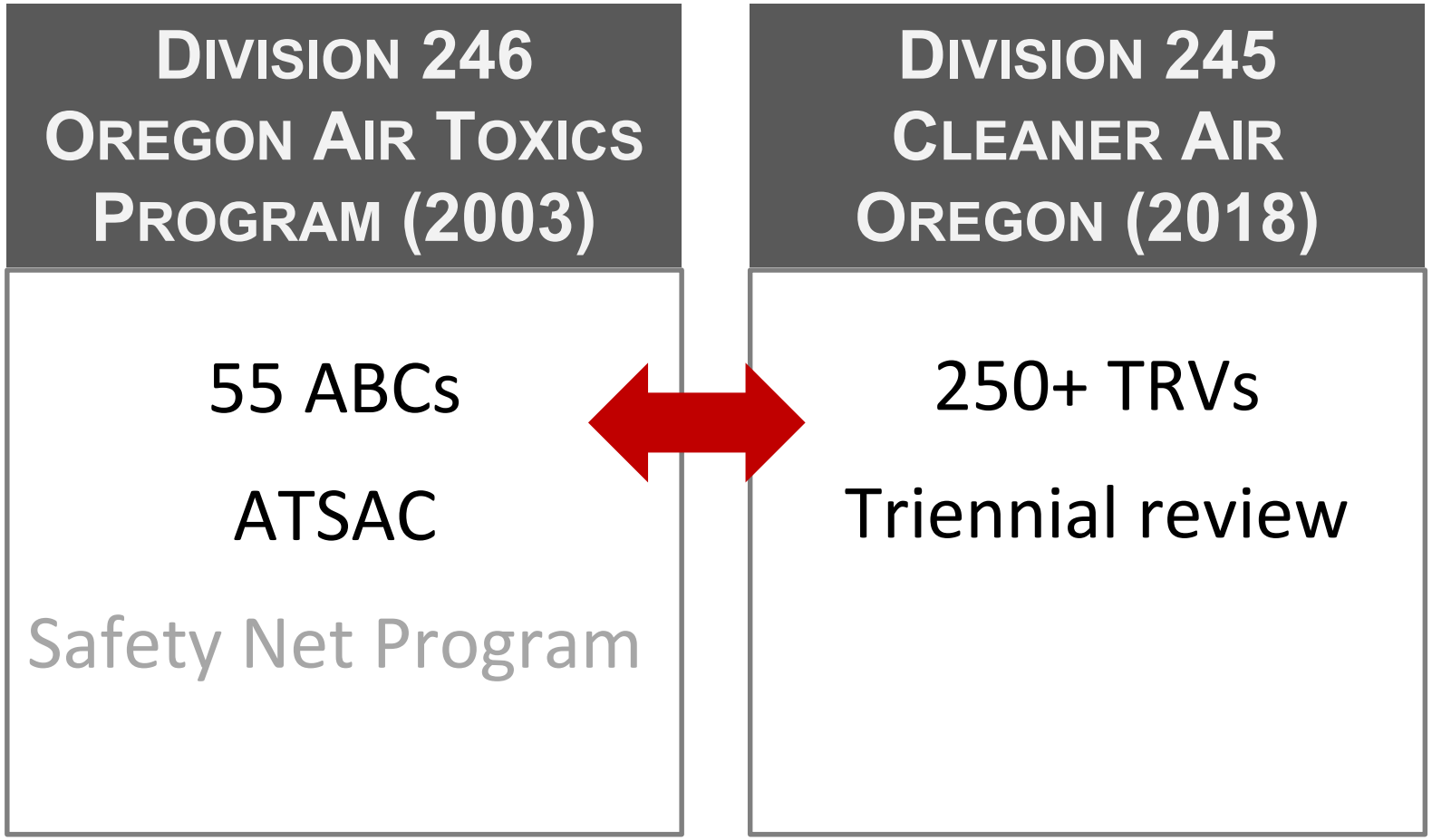
- Advise on the Safety Net Program
- Evaluate progress made by the Air Toxics Program in reducing emissions
- Provide scientific expertise as requested by DEQ

Purpose of the Safety Net Program

- Address rare cases of risk from **stationary** sources not addressed by other air toxics programs
- Multiple stringent requirements for applicability

Safety Net Program has not been invoked
Redundant with CAO

Elements of the alignment



Clarifying Questions?

Background on Toxicity Values

Holly Dixon, Ph.D.

Oregon Health Authority

Why do we use toxicity values?

Air toxics programs at DEQ use toxicity values to determine health risk from breathing in a chemical.

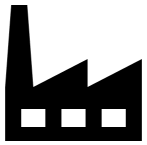
There are currently two separate lists of toxicity values:

- One in the **Cleaner Air Oregon Program** (Toxicity Reference Values, TRVs)
- One in the original **Oregon Air Toxics Program** (Ambient Benchmark Concentrations, ABCs)

TRVs and ABCs Have Different Purposes

TRVs and ABCs both represent the amount of the chemical in air that may cause health problems when inhaled.

TRVs
Toxicity Reference Values



DEQ uses TRVs to evaluate potential health risk from facility emissions in Cleaner Air Oregon, a regulatory program.

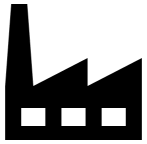
ABCs
Ambient Benchmark Concentrations

DEQ uses ABCs to identify, evaluate, and address toxic air contaminant problems in Oregon airsheds from all sources.

TRVs and ABCs Have Different Histories

TRVs and ABCs both represent the amount of the chemical in air that may cause health problems when inhaled.

TRVs
Toxicity Reference Values



TRVs were established in 2018 and DEQ reviews them every 3 years.

ABCs
Ambient Benchmark Concentrations

ABCs were established before Cleaner Air Oregon. The first set of ABCs was adopted in 2006. The last set of ABCs was adopted in 2018.

How many toxicity values per chemical?

TRVs: Up to three different toxicity values per contaminant

- A TRV depends on the type of health effect (cancer or noncancer) and whether exposure is for a long or short period of time (chronic or acute.

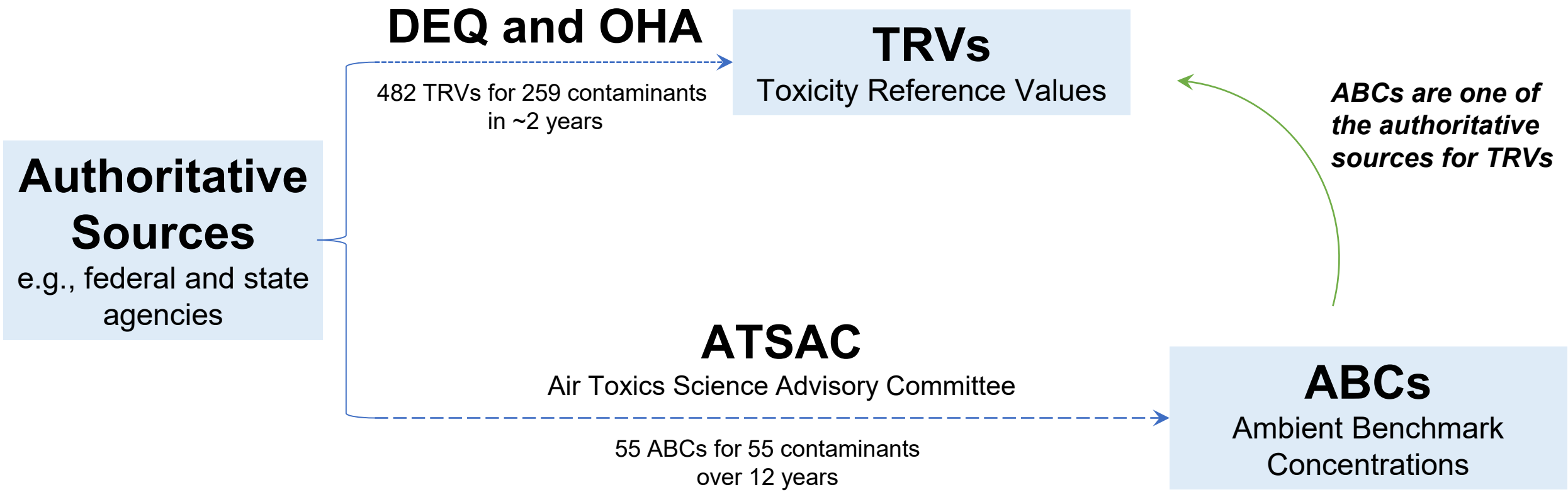
ABCs: One toxicity value per contaminant

- An ABC is either a cancer or noncancer chronic value, whichever one is the lowest (most health-protective)

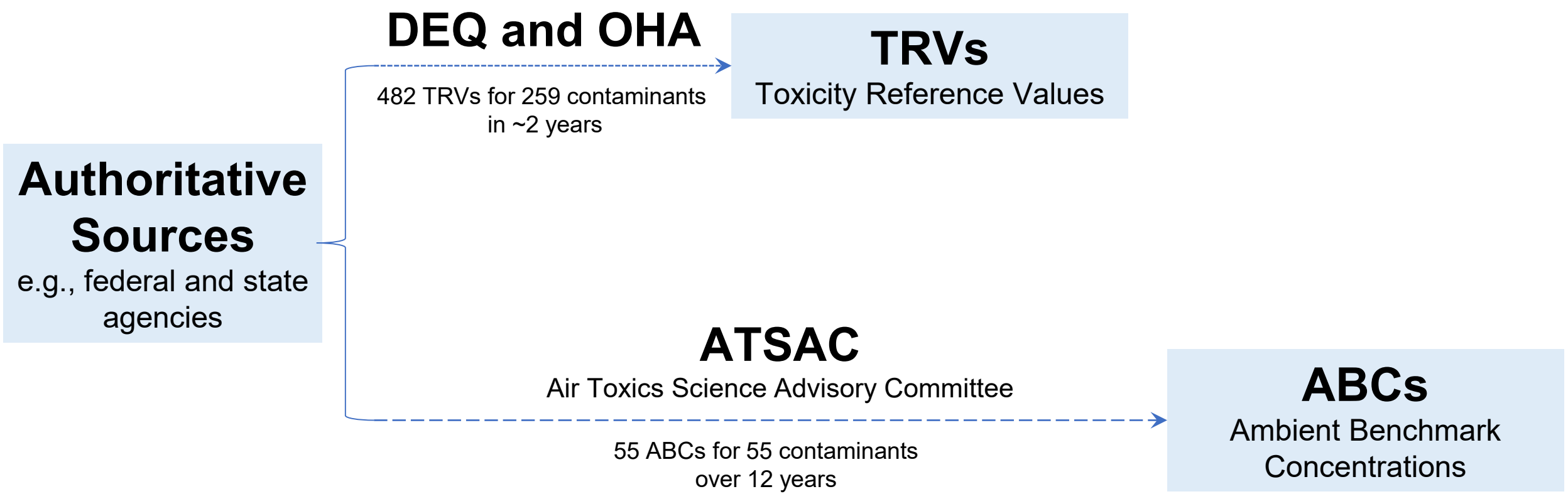
Up to Three Toxicity Values:

- Noncancer acute
- Noncancer chronic
- Cancer

TRVs and ABCs Have Same Scientific Sources, but Different Routes to Adoption



How do we best keep both TRVs and ABCs up to date?



Questions?

Division 245
Regulating Permitted sources via CAO

TRVs (from CA, ATSDR, EPA and DEQ)
updated by DEQ and OHA

Division 246
Geographic assessments and approaches via Oregon Air Toxics program

ABCs (from authoritative sources)
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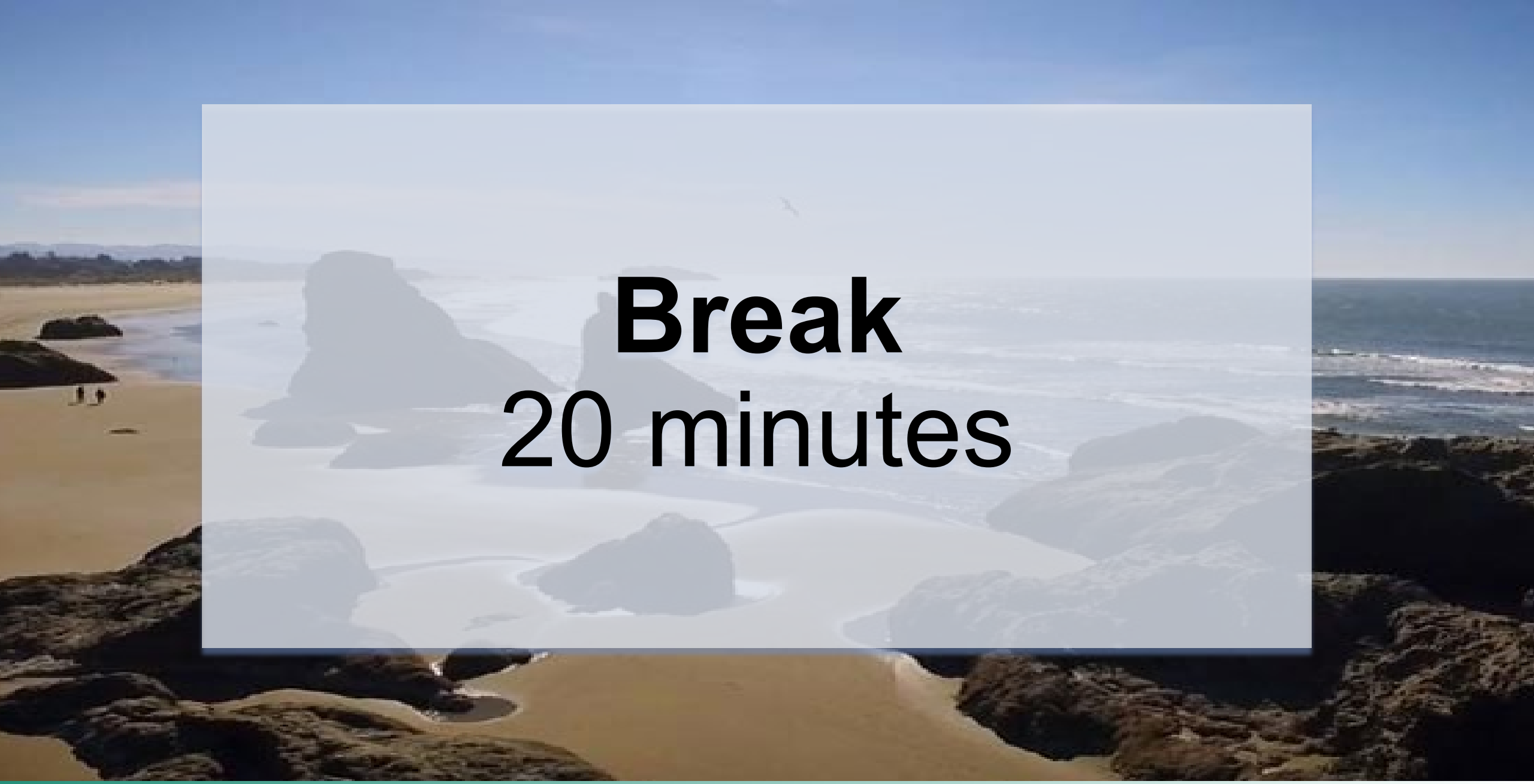


Break
20 minutes

Rulemaking Goals for Toxicity Values

Holly Dixon, Ph.D.

Oregon Health Authority

TRV Triennial Review Process

- DEQ and OHA toxicologists review TRVs every three years
- The first review process is anticipated to begin at the end of 2021
- TRV review allows us to keep up with current, accurate science
  - Example: Cobalt
- By preparing for our first triennial review, we uncovered several challenges that we hope to address with this rulemaking

→ **Challenge 1:** Two of our five authoritative sources for TRVs are not currently being updated and will become outdated over time.

→ **Challenge 2:** Some of the petition instructions in rule are confusing and do not match our original intent.

→ **Challenge 3:** There is not an efficient way for DEQ to try to find or develop TRVs for additional contaminants.

→ **Challenge 4:** No technical community to consult with.

Challenge 1: Authoritative Sources

- **DEQ and OHA short-term guideline concentrations**
  - Developed as part of a rapid response when an art glass manufacturer was emitting high concentrations of metals in a residential neighborhood
  - *Ad hoc* accelerated process and not set up to be an ongoing process for developing TRVs
  - **Proposal –** Remove, no longer necessary
- **Ambient benchmark concentrations (ABCs)**
  - Inefficient process for updating ABCs
  - **Proposals –** Remove ABCs from authoritative source list. DEQ will propose TRVs and then consult with a rescoped ATSAC.

Challenge 2: Petition Process

- People can petition to remove, add, or change TRVs.
- We would like to make this process clear, so more people get involved.
- **Proposal** – Clarify how the petition process works.

Challenge 3: Develop additional TRVs

- In rare situations, we may need the option to try to develop additional TRVs during the triennial review.
- **Proposal** - DEQ will find and develop new TRVs as appropriate and consult with a rescoped ATSAC.

When would we try to develop a TRV?

- Developing a TRV is very resource intensive
- Would be a high bar for us to explore developing a new TRV
- Would only do if:
  - None of our other authoritative sources have value ***AND***
  - We think the chemical has a high likelihood of harming public health in Oregon ***AND***
  - There is adequate scientific information available

Challenge 4: Technical Consultation

- Currently, the TRV review process requires we consult a policy committee, but does not include external scientific review.
- The TRV review is all about updating and developing toxicity values.

- **Proposal** - We want to involve a scientific committee (ATSAC) to ensure the processes we use and values we adopt are externally, technically reviewed.

Rescope ATSAC's Technical Role

In the past:

- Volunteer committee
- Analyze authoritative sources outside of their full-time job
- Consensus based
- ATSAC addressed questions like:

Will you develop a toxicity value for chemical X?

Potential future:

- Volunteer committee
- DEQ will bring proposals on toxicity values to ATSAC
- DEQ will consider each member's recommendation
- ATSAC will address questions like:

Do the toxicity values DEQ and OHA selected and developed look right to you? Does the process we used make sense?

Rescope ATSAC's Technical Role

Original ATSAC Scope

Advise on questions requiring scientific expertise as requested

Review ambient benchmark concentrations (ABCs) for the state air toxics program

Advise DEQ on developing risk assessment methodology in the Safety Net Program

Evaluate overall progress in reducing emissions/exposure to air toxics

Advise DEQ on selecting sources for the Safety Net Program

Proposed ATSAC Scope - To Discuss Today

Review and provide feedback on any updated TRVs proposed by DEQ and OHA in the TRV review

Rescope ATSAC's Technical Role

What disciplines should be represented on the revised ATSAC?

Current Representations
Toxicology
Environmental Science or Engineering
Risk Assessment
Epidemiology/Biostatistics
Medicine (Physician) with training or experience in Public Health
Air Pollution Modeling, Monitoring, Meteorology or Engineering

Rescope ATSAC's Technical Role

What disciplines should be represented on the revised ATSAC?

Current Representations	Proposed Representations
Toxicology	Toxicology
Environmental Science or Engineering	Environmental and/or Atmospheric Chemistry
Risk Assessment	Risk Assessment
Epidemiology/Biostatistics	Epidemiology/Biostatistics
Medicine (Physician) with training or experience in Public Health	_
Air Pollution Modeling, Monitoring, Meteorology or Engineering	_

→ **Proposal 1:** Refine authoritative source list by removing sources that will be outdated and will not reflect the best available science.

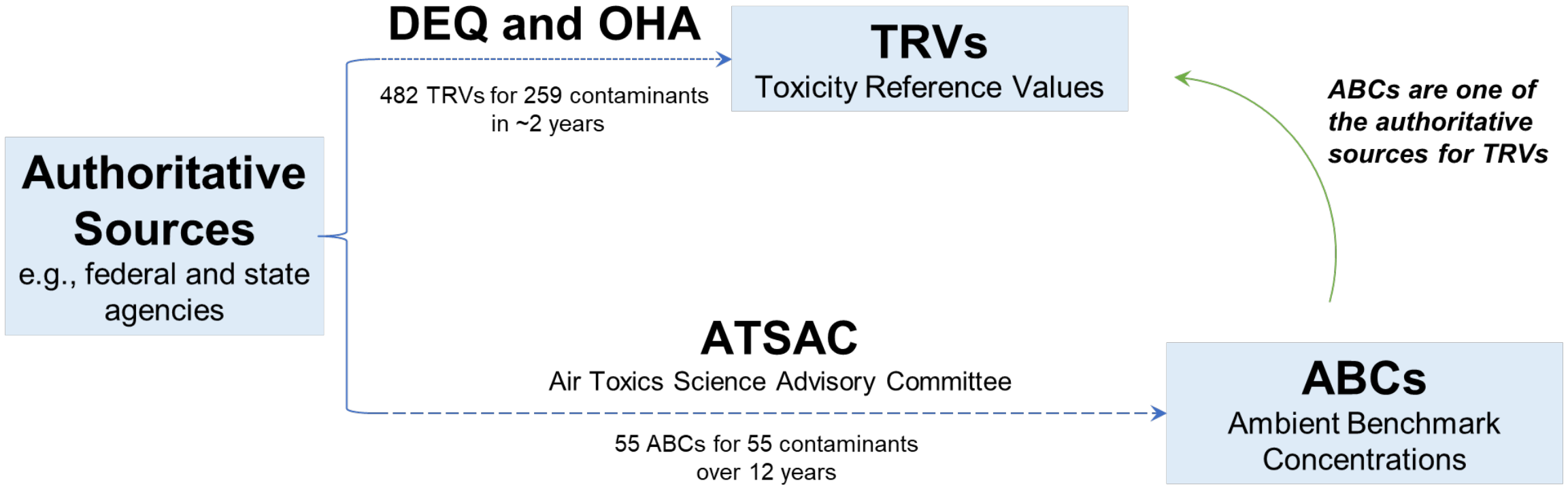
→ **Proposal 2:** Make clarifications in the petition process rule language.

→ **Proposal 3:** Efficiently develop new TRVs as appropriate during the review process.

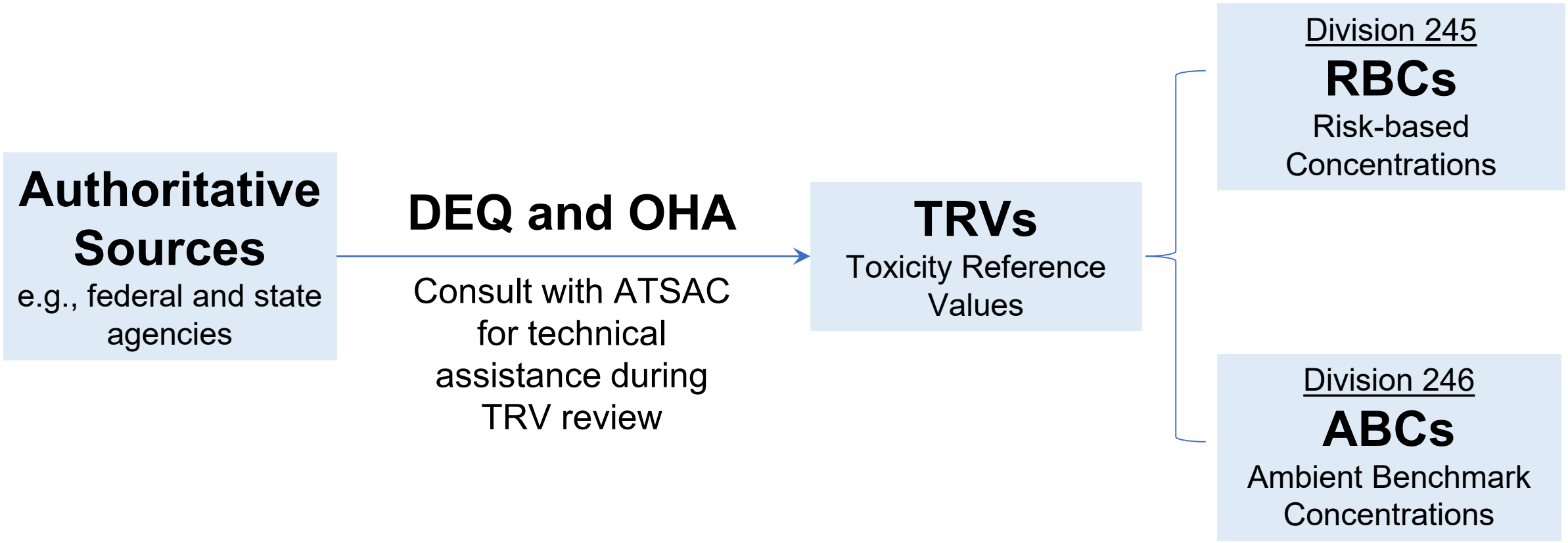
→ **Proposal 4:** Repurpose and rescope the ATSAC to allow for technical consultation.

What happens to ABCs?

- **Challenge 5:** ABCs are currently being generated at a pace that does not reflect current science.

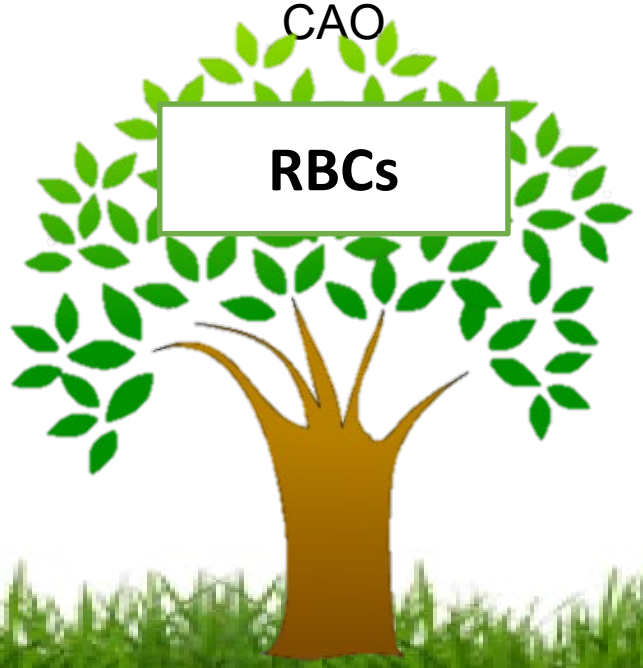


Proposal 5: TRVs Become Basis of ABCs



Future integrated state

Division 245
Regulating Permitted sources via CAO



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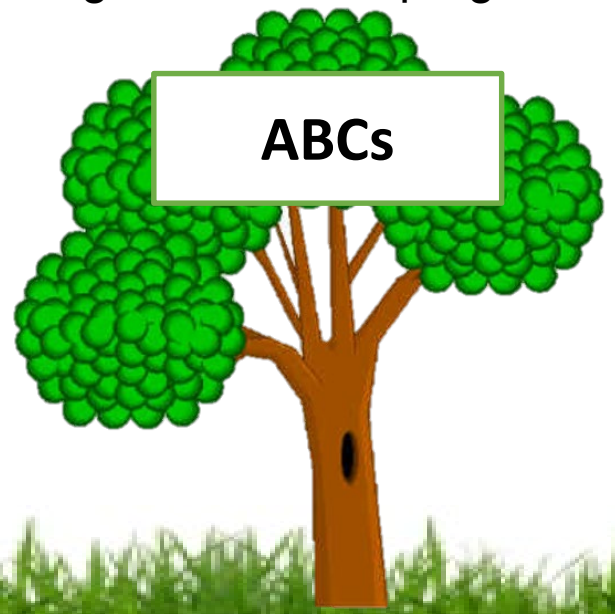
Geographic assessments and approaches via Oregon Air Toxics program



TRVs (from CA, ATSDR, EPA and DEQ) updated by DEQ and OHA
In consultation with revised ATSAC

Toxicity of A =3 Toxicity of B = 3

Impact on ABCs

- If we were to make TRVs the basis of ABCs, we would then have ABCs for 259 contaminants.
  - These additional ABCs are new tools (not requirements) for DEQ's geographic program.
  - This rulemaking is not changing the policy goal for ABCs, which is established in the Oregon Air Toxics Program (Div. 246).
- This rulemaking does **not** change any TRVs or existing ABCs.
  - Changes to TRVs would happen during the upcoming TRV triennial review.

Discussion

	Challenges	Proposals
1	Two of our five authoritative sources for TRVs are not currently being updated and will become outdated over time.	Refine authoritative source list by removing sources that will be outdated and will not reflect the best available science.
2	Some of the petition instructions in rule are confusing and do not match our original intent.	Make clarifications in the petition process rule language.
3	There is not an efficient way for DEQ to find or develop TRVs for additional contaminants.	Efficiently develop new TRVs as appropriate during the review process.
4	No technical community to consult with.	Repurpose and rescope the ATSAC to allow for technical consultation.
5	ABCs are not currently being generated at a pace that reflects current science.	TRVs become the basis of ABCs.

Roundtable Discussion

Steven Anderson
Lisa Arkin
George Conway
Chad Darby
Linda George
Kathleen Johnson
Christine Kendrick
Daniel Lee
Sharla Moffett
Mary Peveto
Diana Rohlman
Jessica Applegate
Kathryn VanNatta
Thomas Wood
Mark Riskedahl

Discussion

	Challenges	Proposals
1	Two of our five authoritative sources for TRVs are not currently being updated and will become outdated over time.	Refine authoritative source list by removing sources that will be outdated and will not reflect the best available science.
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4	No technical community to consult with.	Repurpose and rescope the ATSAC to allow for technical consultation.
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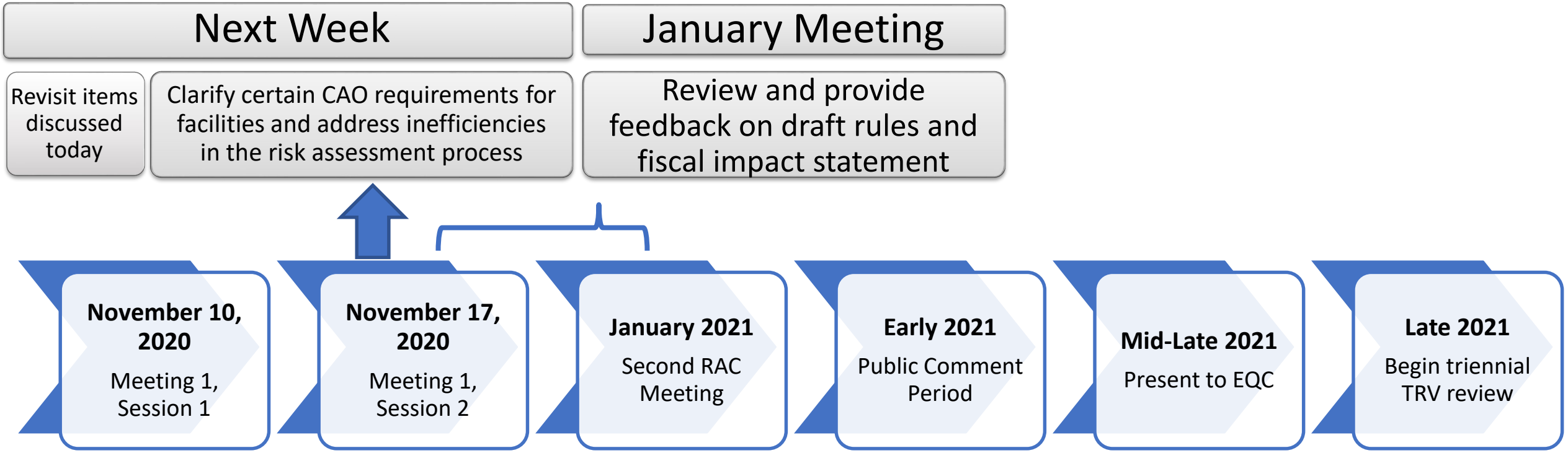
Next Steps

Deadline for written feedback: Friday, Dec. 4, 2020



Thank you for attending!

More info:
ORDEQ.org/AirToxics2021

Contact:
cleanerair@deq.state.or.us

Refine Authoritative Sources

Current Language	Proposed Language
United States Agency for Toxic Substances and Disease Registry (ATSDR)	
United States Environmental Protection Agency (EPA) Integrated Risk Information System (IRIS) or Office of Superfund Remediation and Technology Innovation (OSRTI)	
California's Office of Environmental Health Hazard Assessment (OEHHA)	
DEQ and OHA Short-term Guideline Concentrations	*Delete*
Ambient Benchmark Concentrations specified in OAR Chapter 340, Division 246	DEQ in consultation with the Air Toxics Science Advisory Committee (ATSAC)

Risk Based Concentration

RBC

RBCs are calculated directly from TRVs by integrating information about chemical exposure. In Cleaner Air Oregon, DEQ uses RBCs to evaluate health risks and determine whether the risk is above a level requiring a facility to take action.

Toxicity Reference Values

Exposure Adjustment Factors:

Exposure Time, Frequency, and Duration
Number of hours, days, and years exposed

Early Life Adjustment
Used for some cancer causing chemicals that may have greater toxicity to infants or children

Multi-pathway Adjustment
Exposure routes beyond inhalation, like deposition onto soil or garden vegetables where chemicals could be ingested

Risk Based Concentrations