



# Chapter 173-443 WAC, Hydrofluorocarbons (HFCs) & Other Fluorinated Greenhouse Gases Rule

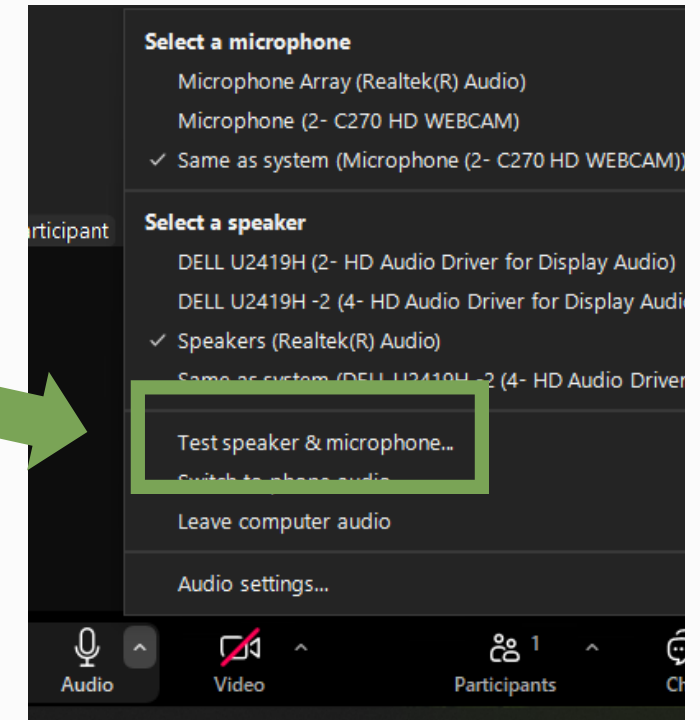
Public Hearing 2

July 10, 2025

# Zoom audio tips



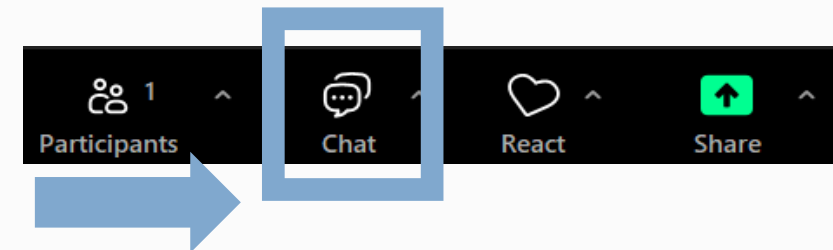
No sound? Click “Test speaker & microphone” in the audio settings to confirm the speaker and mic match the Zoom settings.



If you have a slow internet connection, consider calling in for clearer audio. Dial 253-215-8782. Input the meeting ID: 891 2135 4553



If you are experiencing technical difficulties, please message Nikki Harris in the chat.





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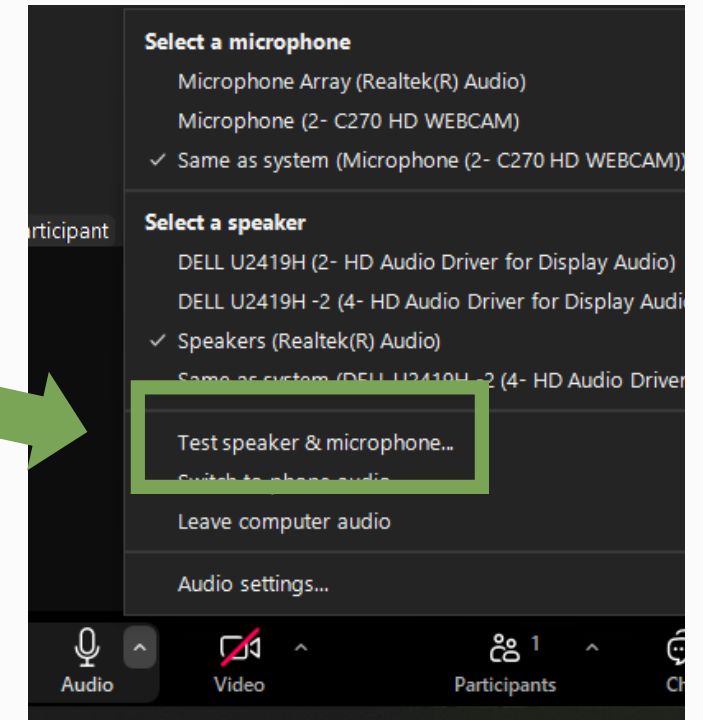
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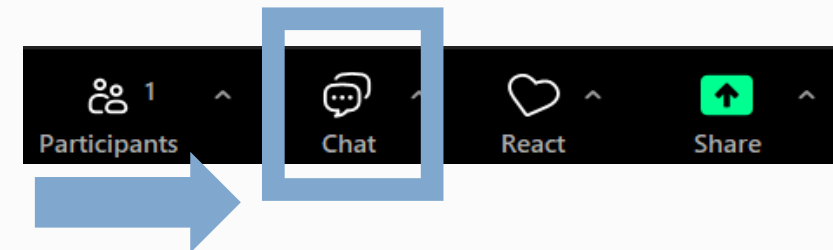
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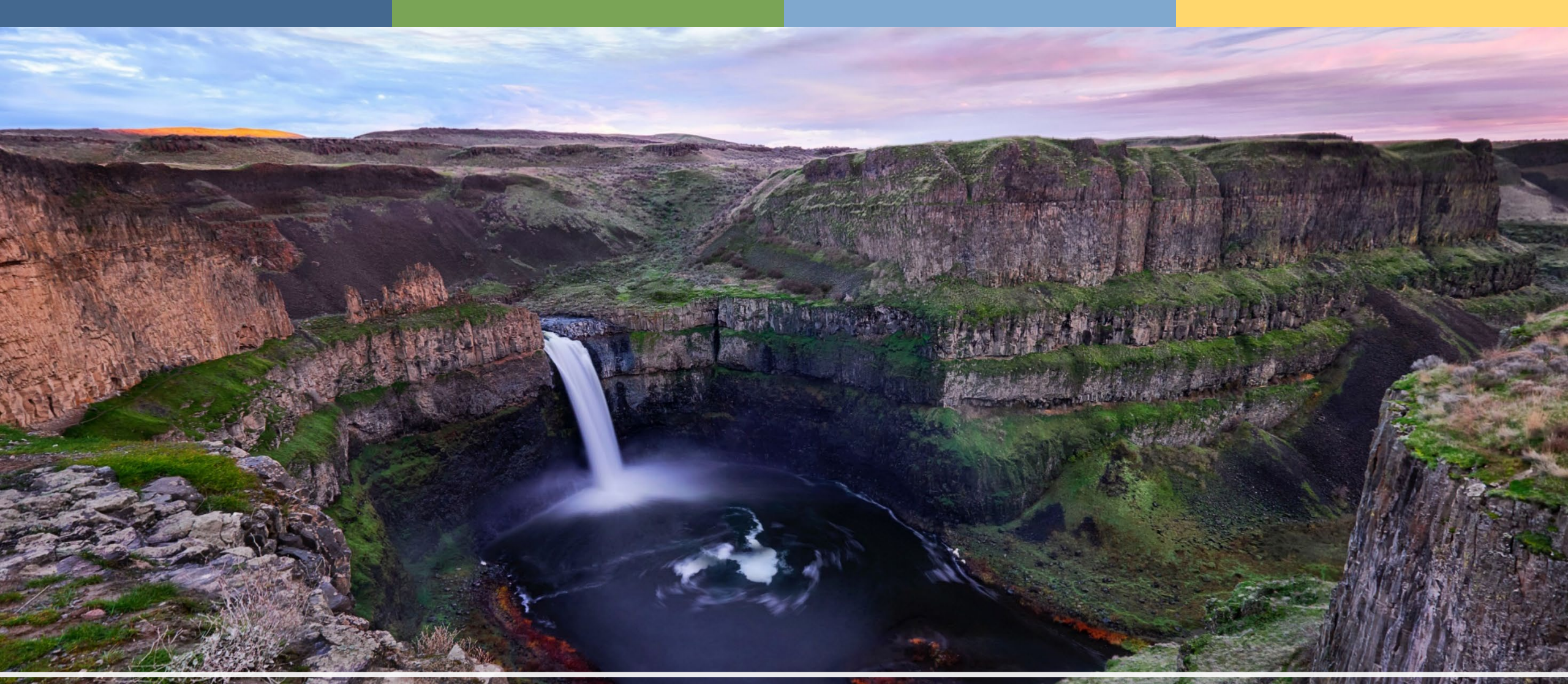
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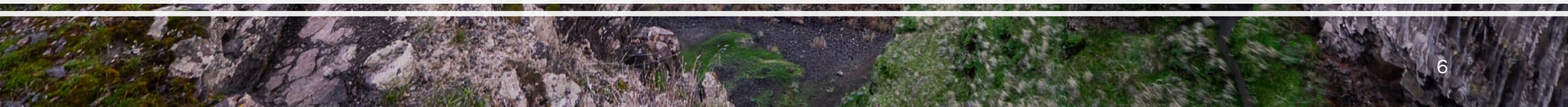
# Start Recording

We will begin recording at this time.





Welcome



# Ecology Staff

- Jack Millard – Public Hearing Officer
- Gopika Patwa–Rule Lead, Environmental Planner
- Tammy Dumitrescu– HFC Technical Lead, Environmental Specialist
- Leonard Machut – Fluorinated Gas Section Manager
- Joshua Grice – CPRP Policy and Planning Section Manager
- Nikki Harris- Technical Host, Environmental Planner

# Zoom tips for participation

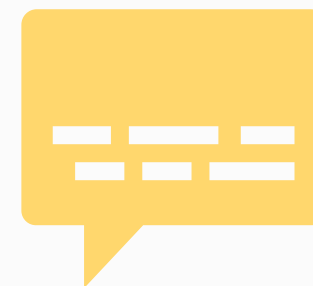
Use the chat for general questions. We'll read them out loud.



Raise your hand and we'll call on you to share your questions or comments. (Dial \*9 to raise your hand if you called in.)



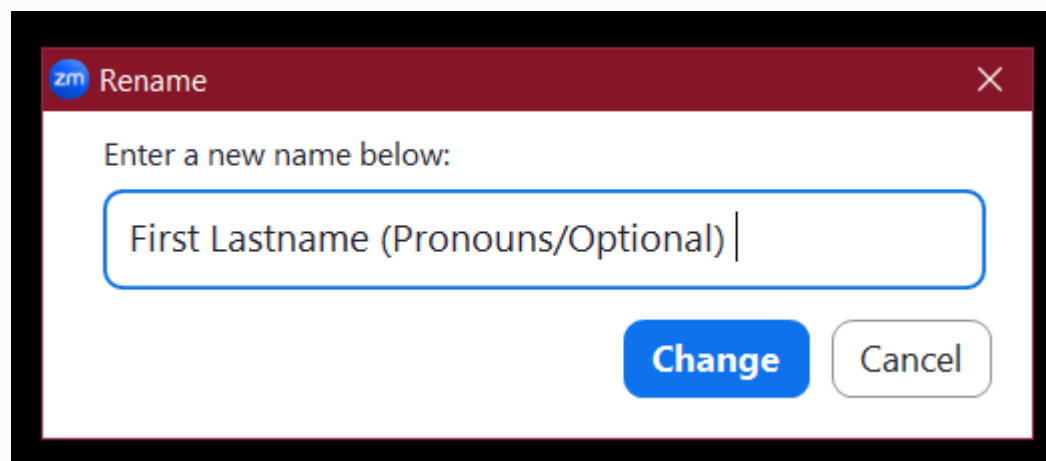
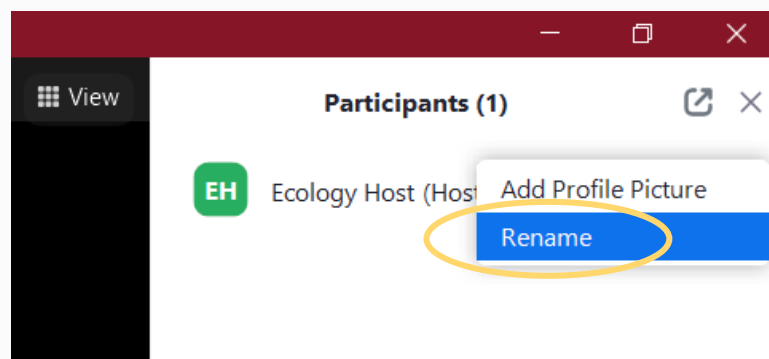
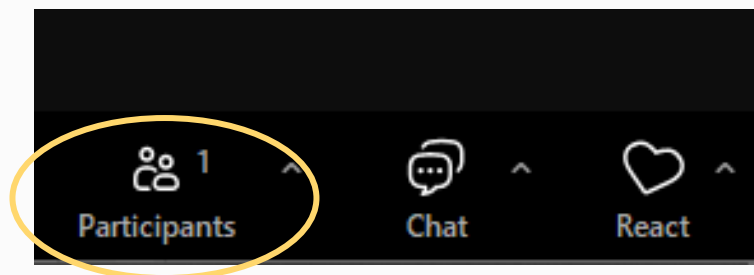
To view live, auto-generated captions, click the "captions" button.



# How to change your name

Click the “Participants” icon located at the bottom of the Zoom window.

Select the “...” next to your name to open the options menu. Click “Rename”



# Agenda



Proposed Rule Overview  
(35 minutes)



Short Question & Answer session  
(15 minutes)



5-Minute Break



Formal Hearing & Testimony

# Meeting Logistics

- The hearing officer makes sure:
  - Everyone who wants to is able to ask questions and provide testimony.
  - We have a clear recording.
- We will record the webinar and public hearing portion of the meeting.
- Your screen name and chat conversations during the hearing will also be recorded.
- If you have questions, please use the “raise your hand” button. If you are calling in, press \*9 to raise your hand.

# Ground Rules

- Please wait until you are called on to ask a question or provide testimony.
- Please summarize lengthy comments – or repetitive ones.
- Length of comment time is 3 minutes.
- **Written comments receive the same consideration as testimony:**
  - Online: must be received by **July 22, 2025, at 11:59 p.m.**
  - Postal mail: postmarked by **July 22, 2025.**



# 173-443 WAC, Hydrofluorocarbons (HFCs) & Other Fluorinated Greenhouse Gases Rule

## Proposed Rule Overview

July 10, 2025

# Overview



Background



Proposed Rule Language Summary



Timeline & Next Steps



Questions

# Background

- In 2021, RCW 70A.60 (Hydrofluorocarbons – Emissions Reduction) was signed into law.
- In 2023, Ecology adopted a rule to address these super pollutants in Washington.
- In 2024, Ecology announced the Hydrofluorocarbons and Other Fluorinated Greenhouse Gases rule to amend Chapter 173-443 WAC.

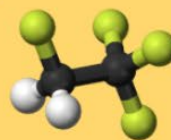


# Hydrofluorocarbons (HFCs)

- Ozone friendly replacement to chlorofluorocarbons and other ozone depleting substances
- High Global Warming Potential (GWP); up to 15,000 times more impactful than carbon dioxide

Addressing these short-lived “super pollutants” will make a significant and immediate impact on climate.

HFCs  
are all  
around



**R-134a**  
1,1,1,2-tetrafluoroethane



# Why HFCs matter

- **HFCs are the fastest-growing greenhouse gas** in the world because of increasing global demand for cooling and refrigeration.
  - State, federal, and international laws and treaties are phasing down production of certain HFCs and shifting to alternatives.
- **HFCs account for more than four million metric tons** of carbon equivalent emissions in Washington each year.
- **Reducing HFC emissions** helps Washington state meet its climate goals.



# Cutting costs & climate impact

- Refrigerants are expensive and getting more expensive with time.
- Leaking equipment is less efficient.
- Refrigerants are potent greenhouse gases that contribute to climate change.
- Preventing and stopping leaks quickly is good for bottom lines and for the environment.

# What our rule does

- Restricts High Global Warming Potential (GWP) HFCs in certain products
- Creates GWP thresholds on new equipment
- Establishes a refrigerant management program for existing equipment



# Rulemaking context

## Ecology is proposing:

- Revisions to WAC **173-443-065 & -075** to modify the sell-through provision
- Revisions to WAC **173-443-040**
  - To align the list of prohibited substances and effective dates for Automatic Commercial Ice Machines with EPA's Technology Transitions rule
  - Other necessary technical and administrative changes

# Key Objectives

- By restricting the use of the most potent HFCs in new equipment and properly maintaining equipment that contain those HFCs, Washington will prevent roughly four million metric tons of greenhouse gas emissions each year by 2035.
- Ecology has identified parts of the rule that could be amended to improve clarity, facilitate more consistent implementation, and reduce unintended consequences from the current rule.



# Proposed Rule Language Summary

## Chapter 173-443 WAC

# Proposed Rule Summary: Chapter 173-443 WAC

Title and Section	Summary of change
<b>Definitions and acronyms</b>  <b>173-443-030</b>	<b>“Automatic commercial ice machine” (ACIM):</b> <ul style="list-style-type: none"> <li>• Made consistent with definition from 10 CFR 431.132 as referred in EPA’s 40 CFR 84.54(a)(8)</li> </ul>
	<b>“Mothballing” or “system mothballing”:</b> <ul style="list-style-type: none"> <li>• Removed “for longer than 60 days”</li> </ul>
	<b>“New refrigeration equipment”:</b> <ul style="list-style-type: none"> <li>• Added clarification: “and increases the cooling load”</li> </ul>
	<b>“Remote Condensing unit”</b> <ul style="list-style-type: none"> <li>• Added ACIM specific reference for remote condensing units               <ul style="list-style-type: none"> <li>• From 10 CFR 431.132</li> </ul> </li> </ul>
	<b>“Stand-alone unit, automatic commercial ice machine”</b> <ul style="list-style-type: none"> <li>• Added definition as referred to in EPA 40 CFR 84.54(a)(8), definitions for ACIMs               <ul style="list-style-type: none"> <li>• From 10 CFR 431.132 and .134</li> </ul> </li> </ul>

# Proposed Rule Summary: Chapter 173-443 WAC

Title and Section	Summary of change
<p><b>List of prohibited substances</b></p> <p><b>173-443-040</b></p>	<p><b>Table 1: <u>End-Use Category: Refrigeration</u></b></p> <ul style="list-style-type: none"> <li>Updated chemical list and date in “Remote condensing units, ACIM (New and retrofit) row to match EPA restrictions for ACIMs (40 CFR 84.54(C)(14))</li> <li>Updated ACIMs stand alone units (self contained) to match EPA 40 CFR, Part 84, Subpart B, Section 84.54(a)(8)</li> </ul>

# Proposed Rule Summary: Chapter 173-443 WAC

Title and Section	Summary of change
<p>Prohibitions and additional requirements for new products and equipment listed in Table 1</p> <p>WAC 173-443-060</p>	<p>(1) Prohibitions:</p> <ul style="list-style-type: none"> <li>Added clarifying detail “sell”            “No person may <u>sell</u>, offer for sale, lease, rent, install, or otherwise cause to enter into Washington commerce any new product or equipment, as defined in WAC 173-443-030, that contains or uses a prohibited substance listed in WAC 173-443-040, Table 1, unless an exemption is provided for in WAC 173-443-050.”</li> </ul>

# Proposed Rule Summary: Chapter 173-443 WAC

Title and Section	Summary of change
<p><b>Prohibitions and additional requirements for new or retrofit refrigeration equipment in Table 2</b></p> <p><b>WAC 173-443-065</b></p>	<p>(1) Prohibitions</p> <ul style="list-style-type: none"> <li>Added clarifying detail “sell” (see above for similar edit)</li> </ul> <p>(2) Sell through provision:</p> <ul style="list-style-type: none"> <li>Removed specific date(s) in the provision, January 1, 2024, manufacture by, and January 1, 2026, sell-through end</li> <li>Removed restriction on rental and lease of equipment from sell-through provision. Made clear that lease and rental of equipment manufactured prior to the prohibition date will be allowed.</li> <li>Added two-year time limit for selling, distribution, and installation of equipment</li> </ul>

# Proposed Rule Summary: Chapter 173-443 WAC

Title and Section	Summary of change
<p><b>Prohibitions and additional requirements for new or retrofit air conditioning equipment in Table 3</b></p> <p><b>WAC 173-443-075</b></p>	<p><b>(1) Prohibitions</b>  Added clarifying detail “sell” (see slide 14 for similar edit)  Fixed a typo: “other” to “otherwise”</p> <p><b>(2) Sell through provision:</b></p> <ul style="list-style-type: none"> <li>• Removed specific date(s) in the provision, January 1, 2024, manufacture by, and January 1, 2026, sell through end</li> <li>• Removed restriction on rental and lease of equipment from sell through provision. Made clear that lease and rental of equipment manufactured prior to the prohibition date will be allowed.</li> <li>• Clarified that there is a two-year time limit for selling, distribution, and installation of equipment</li> <li>• Added install for variable refrigerant flow air conditioning systems to provision if components are manufactured prior to the effective date of the prohibition</li> </ul>

# Proposed Rule Summary: Chapter 173-443 WAC

Title and Section	Summary of change
<p><b>Registration requirements for refrigerant wholesalers, distributors, and reclaimers</b></p> <p><b>WAC 173-443-125</b></p>	<ul style="list-style-type: none"><li>• Added Clarifying language:<ul style="list-style-type: none"><li>• New facilities that begin operation after January 1, 2024, requirement to register within 3 months of beginning operation</li></ul></li></ul>

# Technical and administrative fixes

**173-443-095(3)(h)(iv)(i) and 173-443-225(2)(3)(c):**

- **Updated section and program names**
  - Air Quality Program to Climate Pollution Reduction Program
  - HFC Program to Fluorinated Gases Section
- **Corrected Ecology email address**
  - HFC@ecology.wa.gov to [HFC@ecy.wa.gov](mailto:HFC@ecy.wa.gov)

# Interpretative Statements

- **December 2024**
  - Guidance for ACIMs
- **February 2025**
  - HFC restrictions in data center cooling equipment.
- **April 2025**
  - HFC sell-through provisions

# Key Clarifications

- **Refrigerant restrictions**
  - Existing equipment does not need to be replaced
  - Restrictions apply only to equipment manufactured after the restriction dates
- **Rulemaking scope**
  - This rulemaking can only address topics that fall within its defined scope. Topics outside of this scope may be considered in a future rulemaking.

# Rulemaking timeline

## Rule announcement

- Introduce rulemaking
- Public meetings
- Rule development
- Informal public comment periods

October 2024 – April 2025

## Rule proposal

- Announce public hearings
- Provide proposed rule language
- Formal comment period
  - Hold public hearings
  - Submit comments

May 2025 – August 2025

## Rule adoption

- Adopt final rule language (File CR-103)
- Concise Explanatory Statement
- Economic analysis
- Rule effective after 31 Days

October 2025

# Environmental Justice Assessment

- We will be conducting an Environmental Justice Assessment to support this rulemaking as required by the HEAL Act.
- Ecology held a Tribal Forum and Community Forum to:
  - Increase awareness about Hydrofluorocarbons
  - Gather feedback from Tribes, environmental justice organizations and other members of the public who may have insight into the impacts of this rulemaking on Washington's communities.
  - Encourage public participation in the rulemaking process.

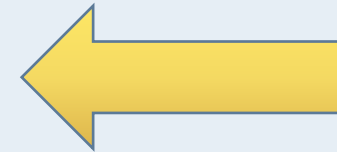
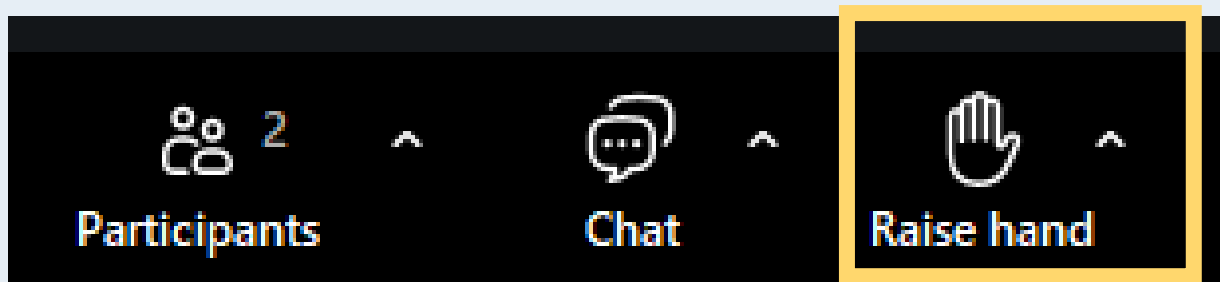


# Question & Answer

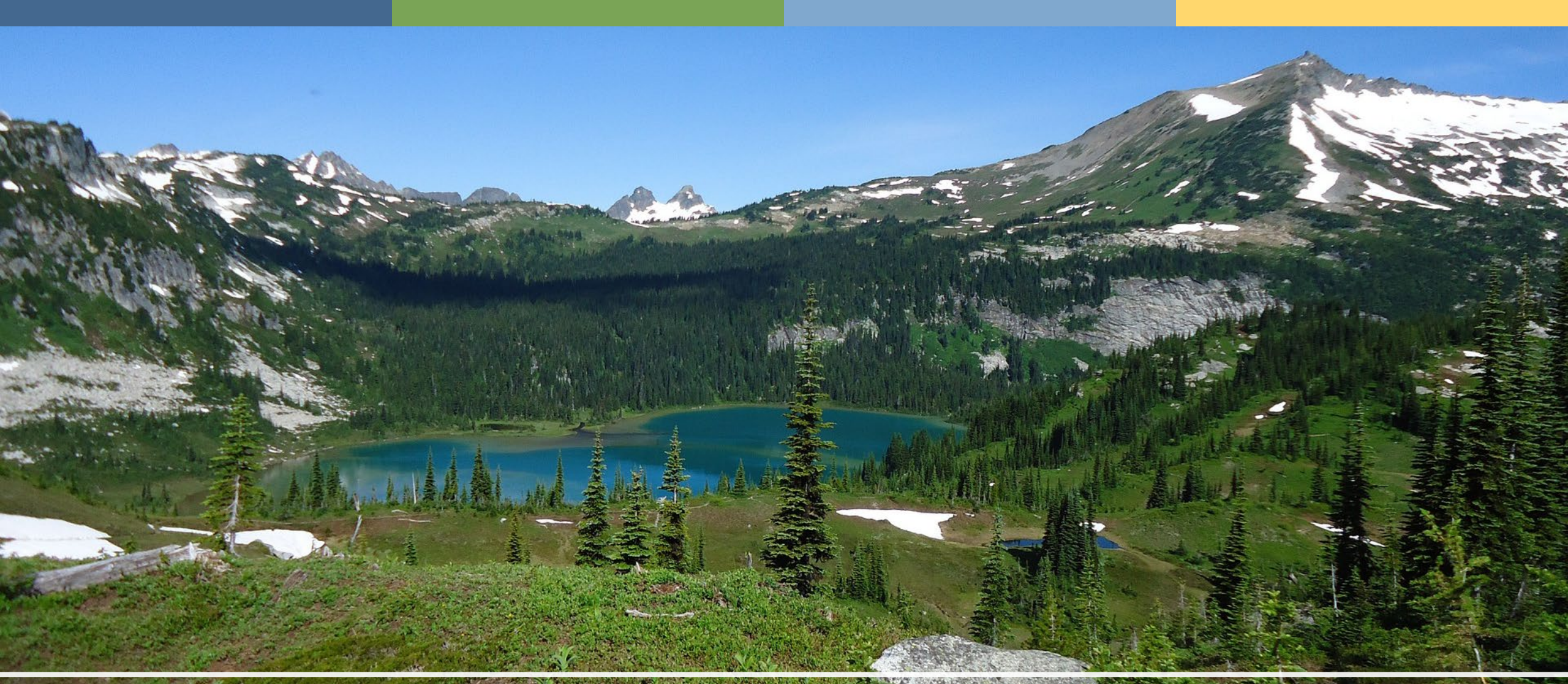
# Question & Answer Session

## How to ask a question:

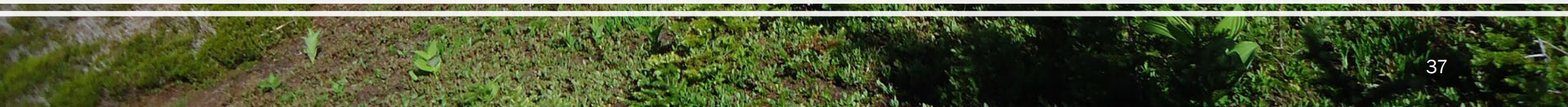
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**5–Minute Break**



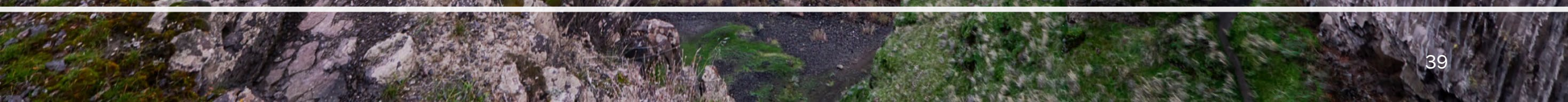
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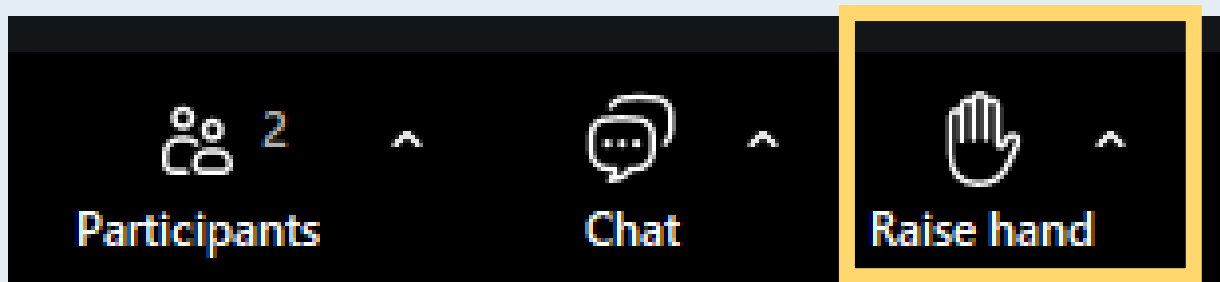
# Formal Hearing & Testimony



# Question & Answer Session

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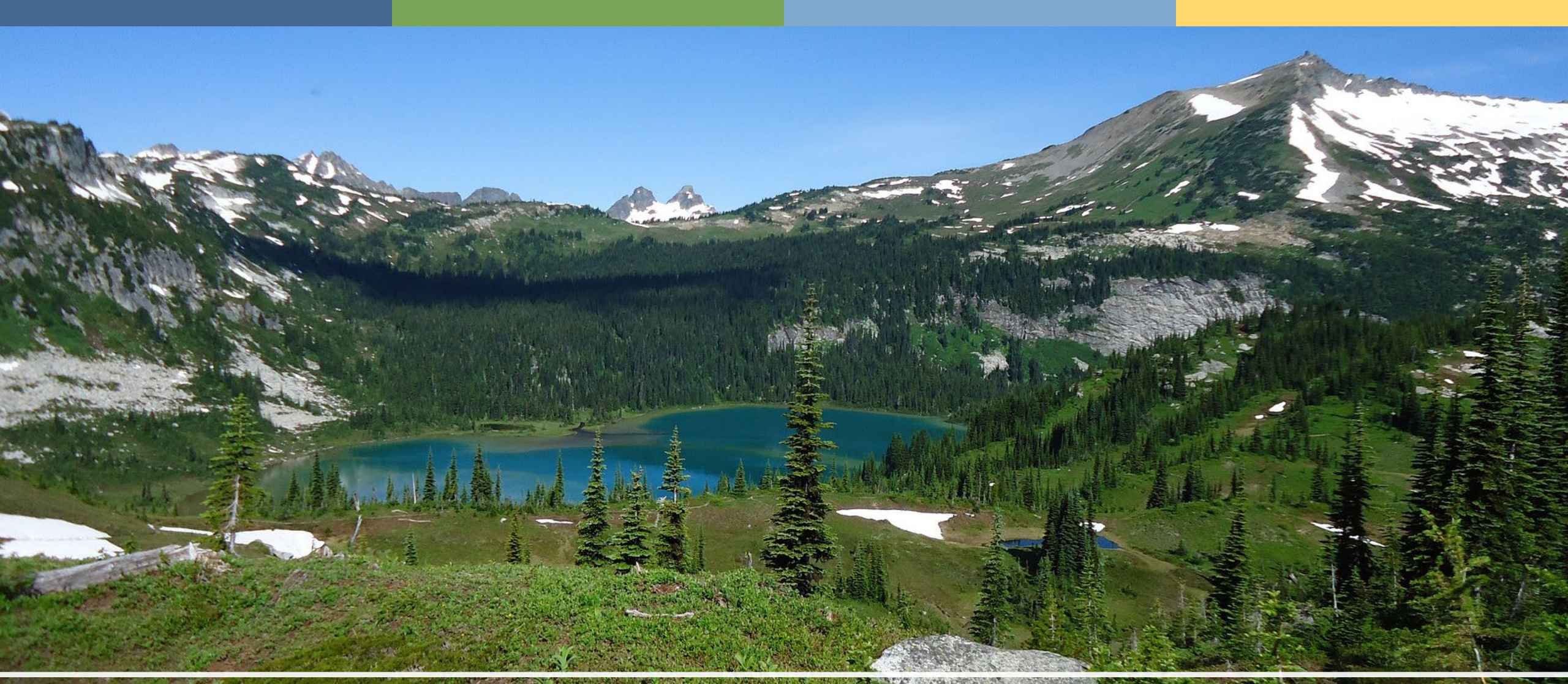


# Testimony



# Submitting written comments

- Visit our rulemaking webpage: <https://ecology.wa.gov/regulations-permits/laws-rules-rulemaking/rulemaking/wac-173-443-hydrofluorocarbons>
- Submit comments online:  
<https://ecology.commentinput.com/?id=Gd7ePVHhc>
- Postal mail: Department of Ecology  
Climate Pollution Reduction Program  
Attn: Gopika Patwa  
PO Box 47600  
Olympia, WA 98504-7600
- Contact Gopika Patwa, rulemaking lead, at [gopika.patwa@ecy.wa.gov](mailto:gopika.patwa@ecy.wa.gov) or call 360-338-2419
- Due by: July 22, 2025, at 11:59 p.m.



Thank you