



# Greenhouse Gas Assessment for Projects (GAP) Rulemaking

November 2020 WEBINAR



# Webinar Agenda

## Introduction

## Presentation on Overview of the GAP Rule (60 minutes)

- GAP rule introduction

- Rule purpose and timeline

- Applicability

- Environmental assessment methods

- Mitigation

*Break (5 minutes)*

## Public Input and Feedback (80 minutes)



# Previous Webinars

**Presentations from these webinars are available on the GAP Rule website.**

## **June 25, 2020 Webinar**

- Information on the rule purpose, process, and key concepts

## **July 23, 2020 Webinar**

- Rule applicability

## **August 27, 2020 Webinar**

- Environmental assessment methods

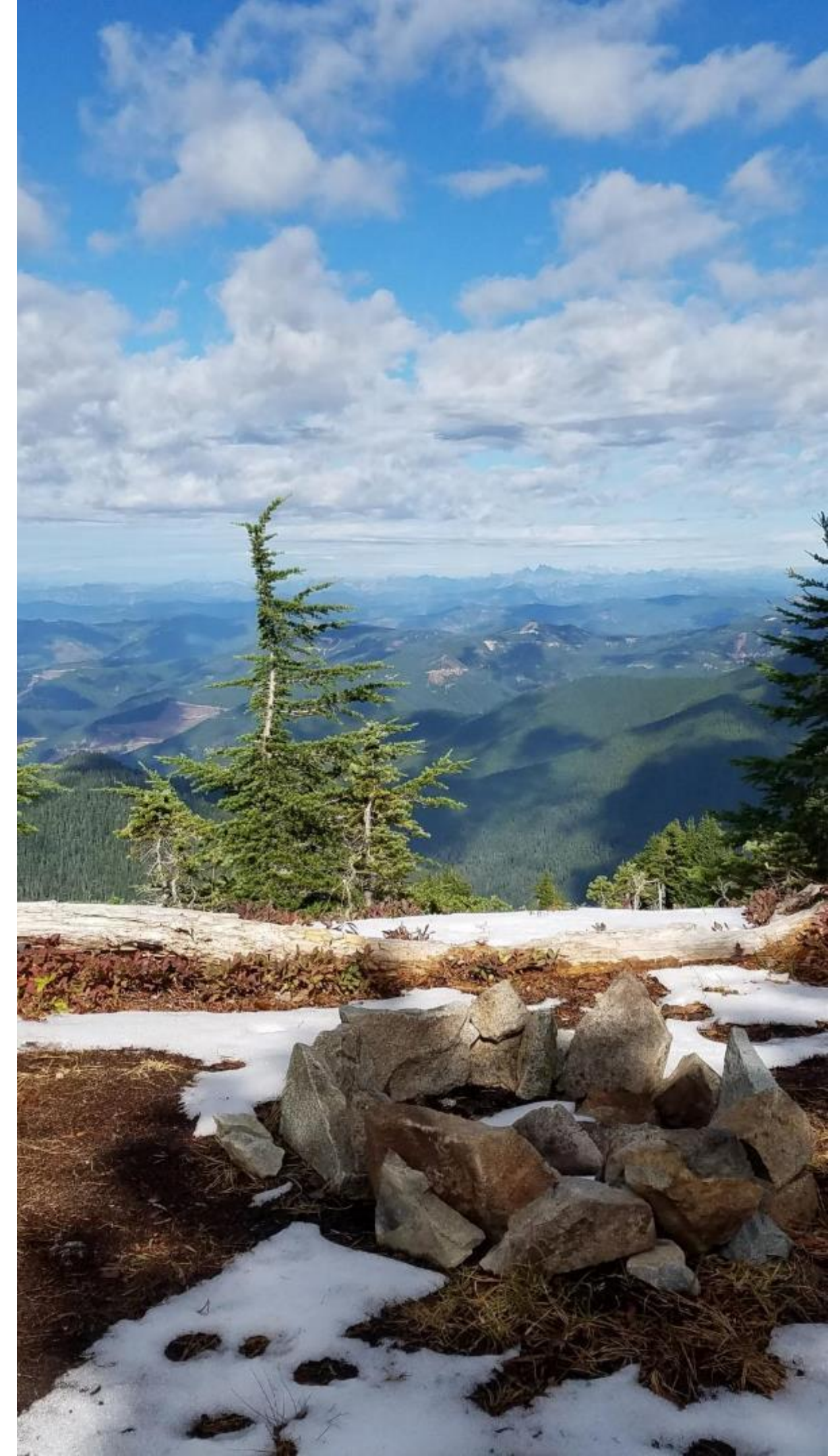
## **October 29, 2020 Webinar**

- Mitigation





# GAP Rule Overview



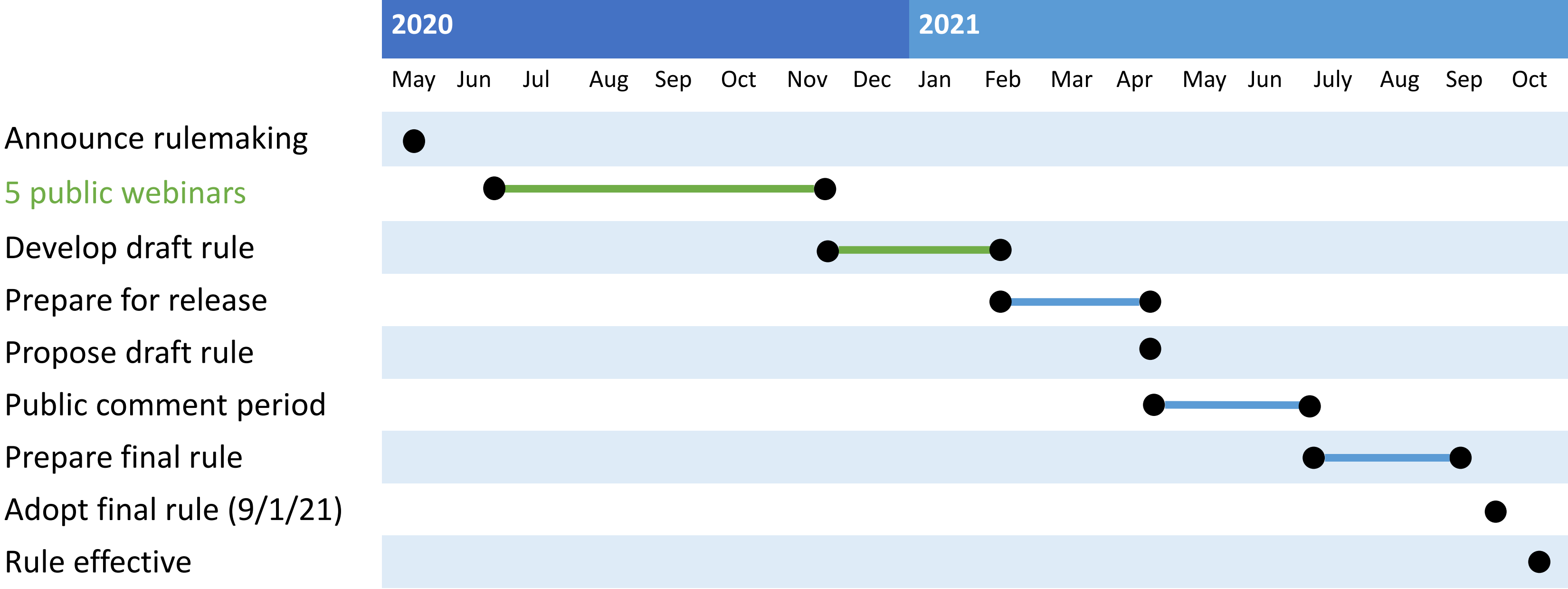
# GAP Rule

- Ecology has started rulemaking as directed by Governor's Directive 19-18.
- A new rule will be created:

## **Chapter 173-445 WAC, Greenhouse Gas Assessment for Projects**

- This rulemaking will:
  - Address analysis and mitigation of greenhouse gas emissions for environmental assessments of industrial and fossil fuel projects.
  - Provide consistent and comprehensive assessment methods for industrial and fossil fuel projects.
  - Provide clarity and transparency to industry, the public, and agencies.

# Schedule



# GAP Rule Approach and Status

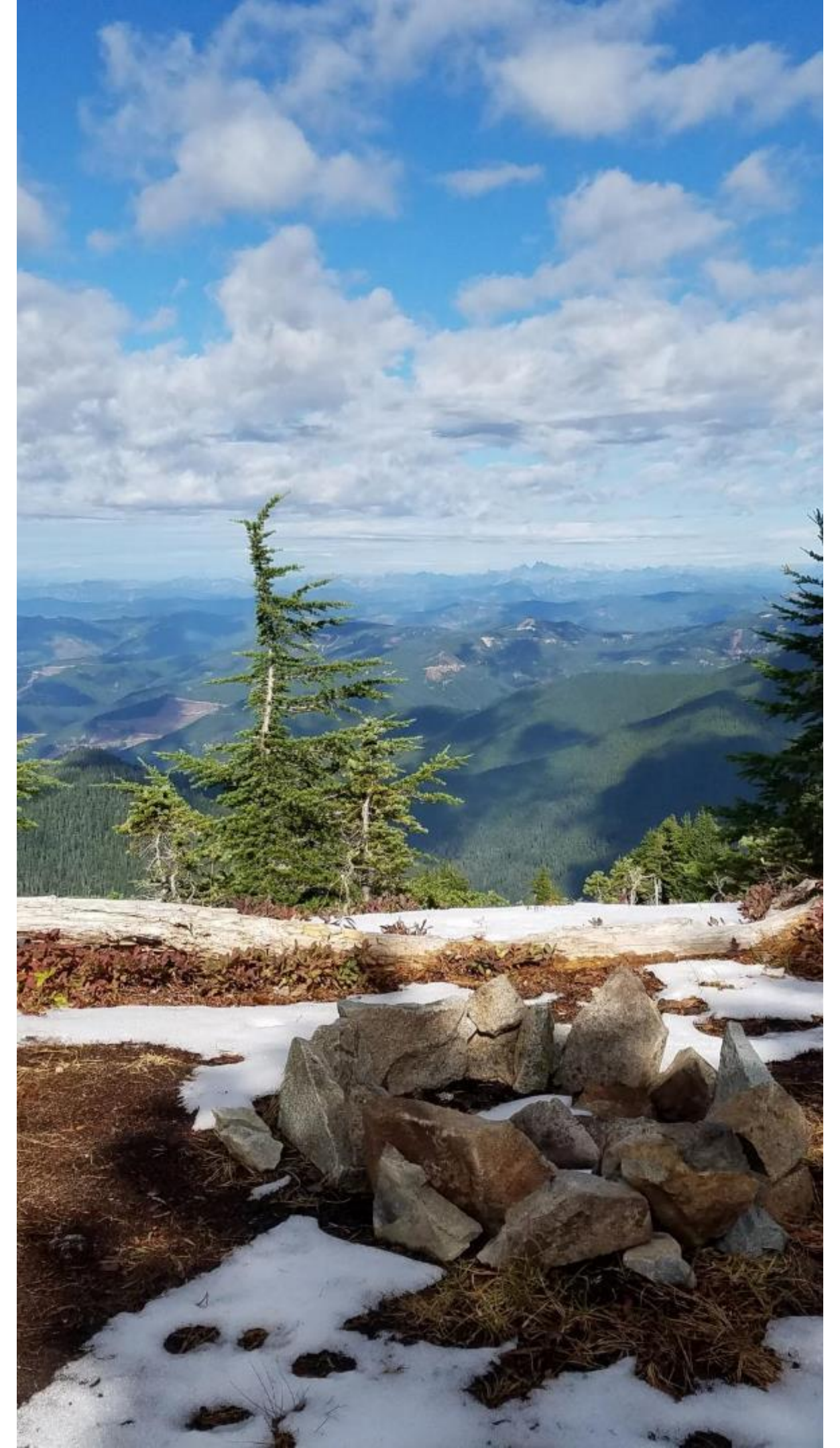
The rule will have three main parts:

1. Initial screening process to determine applicability
2. Environmental assessment methods
3. Mitigation

Current phase: Rule development



# SEPA and the GAP Rule



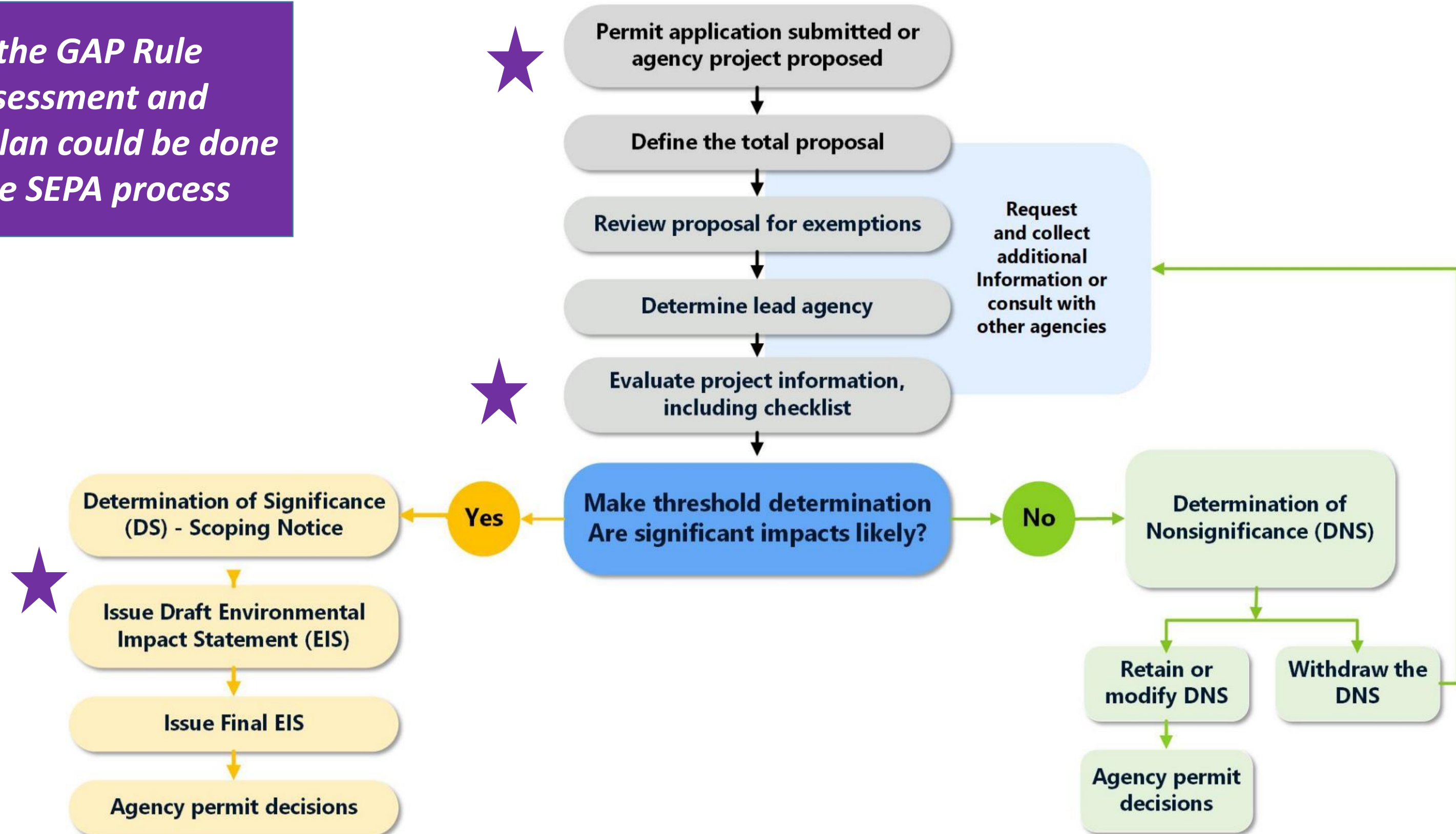


# SEPA and the GAP Rule

- The GAP rule will not change the SEPA Rule, WAC 197-11.
- The SEPA rule identifies the resources which should be considered in an environmental assessment.
  - Other state and local rules, policies, and guidance are used to assess potential impacts and provide methodologies for the analysis.
  - The GAP rule would be used in this way.
- If a project is not required to do the environmental assessment under the GAP rule, emissions would still be considered under SEPA on a case-by-case basis.
  - Projects are not exempt from having to consider GHG emissions if they are not covered by the GAP rule.
- We expect the methods described in the GAP rule may also be referenced or used by SEPA lead agencies for GHG emission assessments for projects not covered by the rule – but this would not be required.

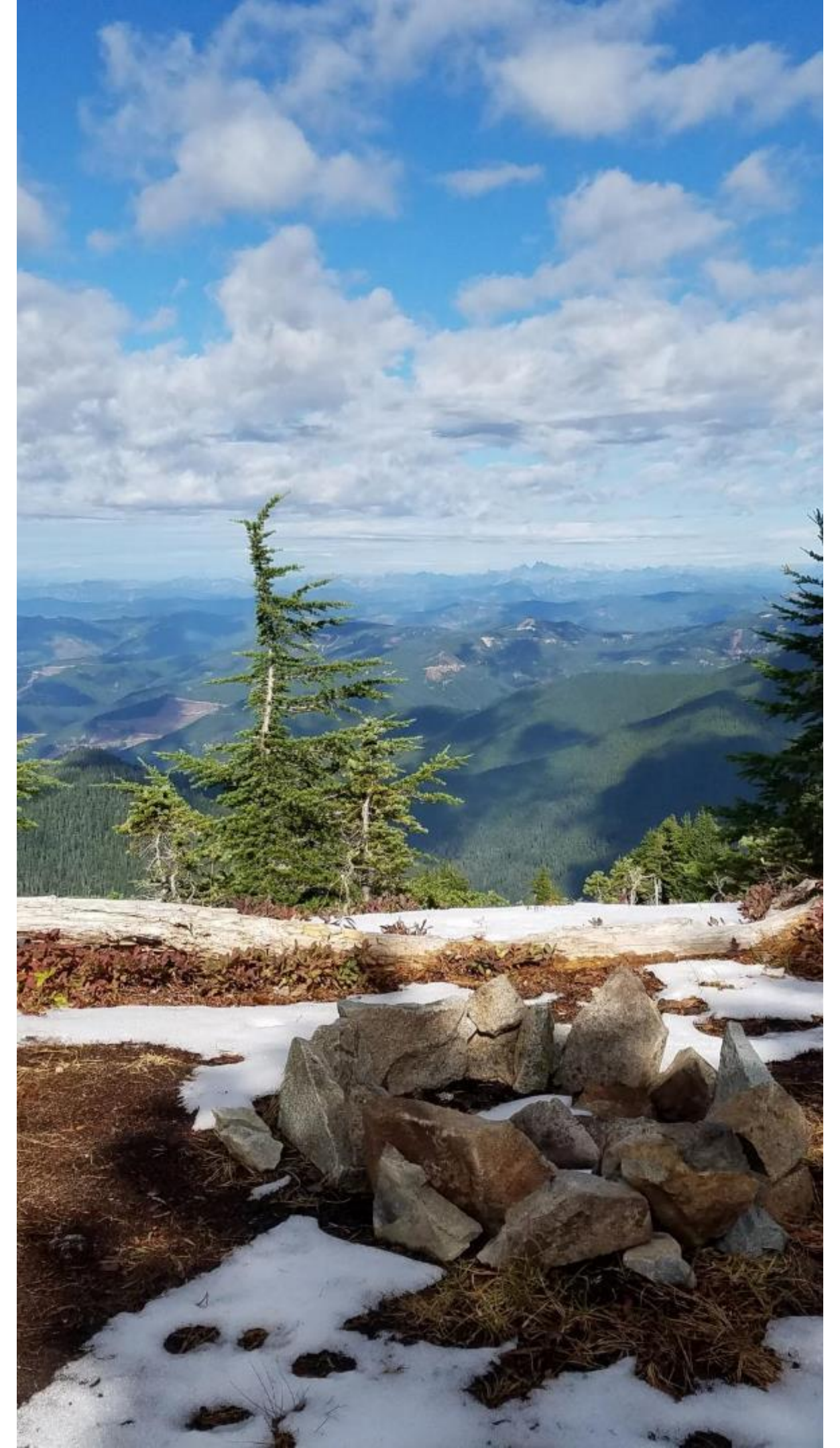
# SEPA Process

★ *Where the GAP Rule  
GHG assessment and  
mitigation plan could be done  
during the SEPA process*





# GAP Rule Applicability





# Where the GAP Rule Would Apply

- The rule will apply to proposed projects with likely greenhouse gas emissions.
- The focus of this rule will be on fossil fuel and industrial projects per the Governor's Directive 19-18.
- Proposed projects could be:
  - A new facility which requires environmental review
  - or*
  - Changes to an existing facility which require environmental review
- The rule would be used by any lead agency under the State Environmental Policy Act (SEPA) or by project applicants.

# Greenhouse Gases (GHGs)

Greenhouse gases are defined in RCW 70A.45.010 (formerly RCW 70.235.010) and listed in WAC 173-441-040. They include:

- Carbon dioxide
- Methane
- Nitrous oxide
- Hydrofluorocarbons
- Perfluorocarbons
- Sulfur hexafluoride
- Any other gas or gases designated by the department by rule
  - RCW 70A-15-2200 (formerly RCW 70.94.151)
  - WAC 173-441-040

# Where the GAP Rule Would NOT Apply

- The rule would **not** apply to existing facility operations which are already permitted.
- The rule would **not** apply to projects going through a SEPA environmental review process before the GAP rule is in effect.
- The rule would **not** apply to projects which have completed a SEPA environmental review process.
- In general, the rule would **not** apply to:
  - Programmatic reviews or plans, like a Comprehensive Plan update
  - Highway, road, or passenger rail projects
  - Housing projects
- For projects that are not covered by the GAP rule, greenhouse gas emissions will still require consideration under SEPA on a case-by-case basis.



# How to Know if a Project Must Follow the GAP Rule

An initial screening process would be used to determine if the GAP rule applies.

Considerations when screening a project:

1. Facility on-site emissions
2. Feedstocks (inputs)
3. Products (outputs)

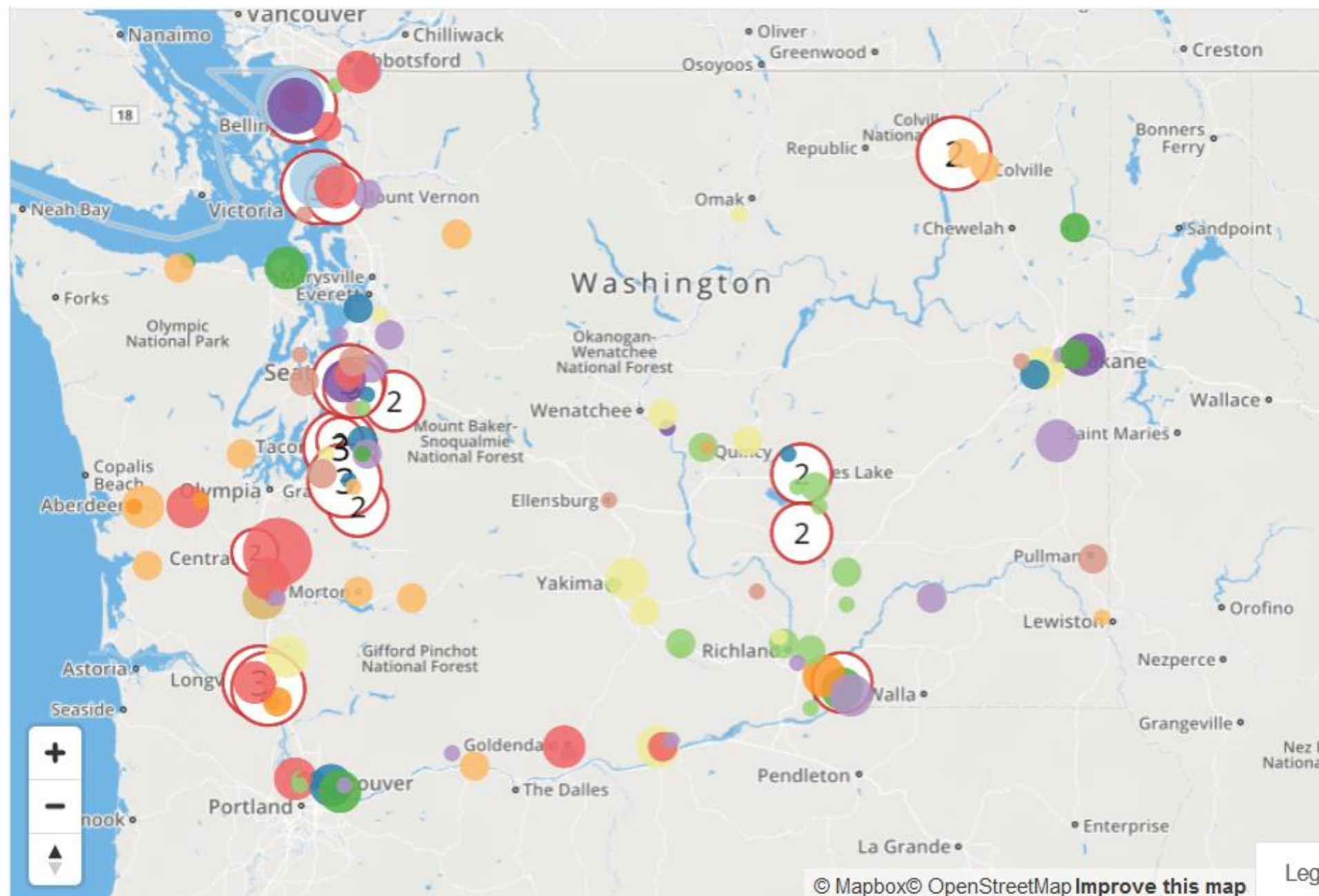
➤ If the screening process identifies a project as being applicable, then the GAP Rule must be used.

# Project's Facility GHG Emissions

- Estimate the project's facility emission sources using methods described in WAC 173-441-120, Reporting of Emissions of Greenhouse Gases.
    - The WAC requires using the methods adopted by reference from EPA's GHG reporting regulation, 40 CFR 98, Mandatory Greenhouse Gas Reporting.
    - The WAC uses a reporting threshold of 10,000 MT CO<sub>2</sub>e
  - The GAP rule screening process would include estimating emissions from biogenic CO<sub>2</sub>
  - Estimate facility GHG emissions using a potential to emit basis.
    - Examples: maximum quantity of natural gas per year that could be burned, permit limits, boiler ratings, etc.
- If facility emissions are equal to or greater than 10,000 metric tons of CO<sub>2</sub>e per year, the GAP Rule applies to the project.

# Project's Facility GHG Emissions

In 2018, over 150 Washington facilities reported GHG emissions over 10,000 metric tons of CO<sub>2</sub>e



- Power plants
- Petroleum refineries
- Pulp and paper plants
- Metals (aluminum, steel)
- Glass plants
- Chemical producers
- Electronics manufacturers
- General manufacturing
- Large boilers
- Food processors
- Waste facilities



# Example of a Project Modifying an Existing Facility

- An existing university is expanding their main campus, including adding a boiler.
- Existing conditions – do not count for applicability screening. Currently they have natural gas units rated at 500 mmBTU/hour that use 10 million therms/year that emit 53,000 MT CO<sub>2</sub>e per year.
- Their proposed project will add a natural gas boiler rated at 25 mmBTU/hour.
  - 8,760 hour/year,
  - 53.06 kg CO<sub>2</sub>/mmBTU (Table C-1 to Subpart C of Part 98),
  - = 11,620 MT CO<sub>2</sub>/year PTE ✓
- **Project exceeds applicability threshold**, no need to complete further calculations for other GHGs (CH<sub>4</sub>, N<sub>2</sub>O). The GAP rule would apply.

# GHG Emissions for Project Inputs and Outputs

- If a project's facility GHG emissions are less than 10,000 metric tons of CO<sub>2</sub>e, then consider inputs and outputs to the project.
    - Inputs are materials used by the project (feedstocks: natural gas for a chemical plant)
    - Outputs are materials made by the project (products: gasoline from a refinery)
  - Identify inputs or outputs using a table in the rule for:
    - Fossil fuels
    - Electricity
  - Estimate the potential to emit:
    - Similar to 40 CFR 98 Table C-1 and Table MM-1
    - For unlisted hydrocarbons, estimate on a carbon content basis
- If a single input or output, or a combination of multiple inputs or outputs, are  $\geq$  10,000 metric tons of CO<sub>2</sub>e, the GAP Rule applies to the project.

# Example of New Project

- New petroleum refinery, no existing emissions
- Facility emissions would be >10,000 MT CO<sub>2</sub>e ✓
- Feedstocks:
  - Crude oil > 968,000 gal/yr ✓
  - Natural gas > 183 million scf/yr ✓
  - Electricity (tbd)
- Products:
  - Gasoline > 1,110,000 gal/yr ✓
  - Diesel > 912,000 gal/yr ✓
  - Petroleum coke > 3,200 st/yr ✓
- **Project meets applicability** based on any of the checked emissions sources.  
The GAP rule applies.



# What We've Heard - Feedback

We received input and feedback on the applicability section of the GAP rule.

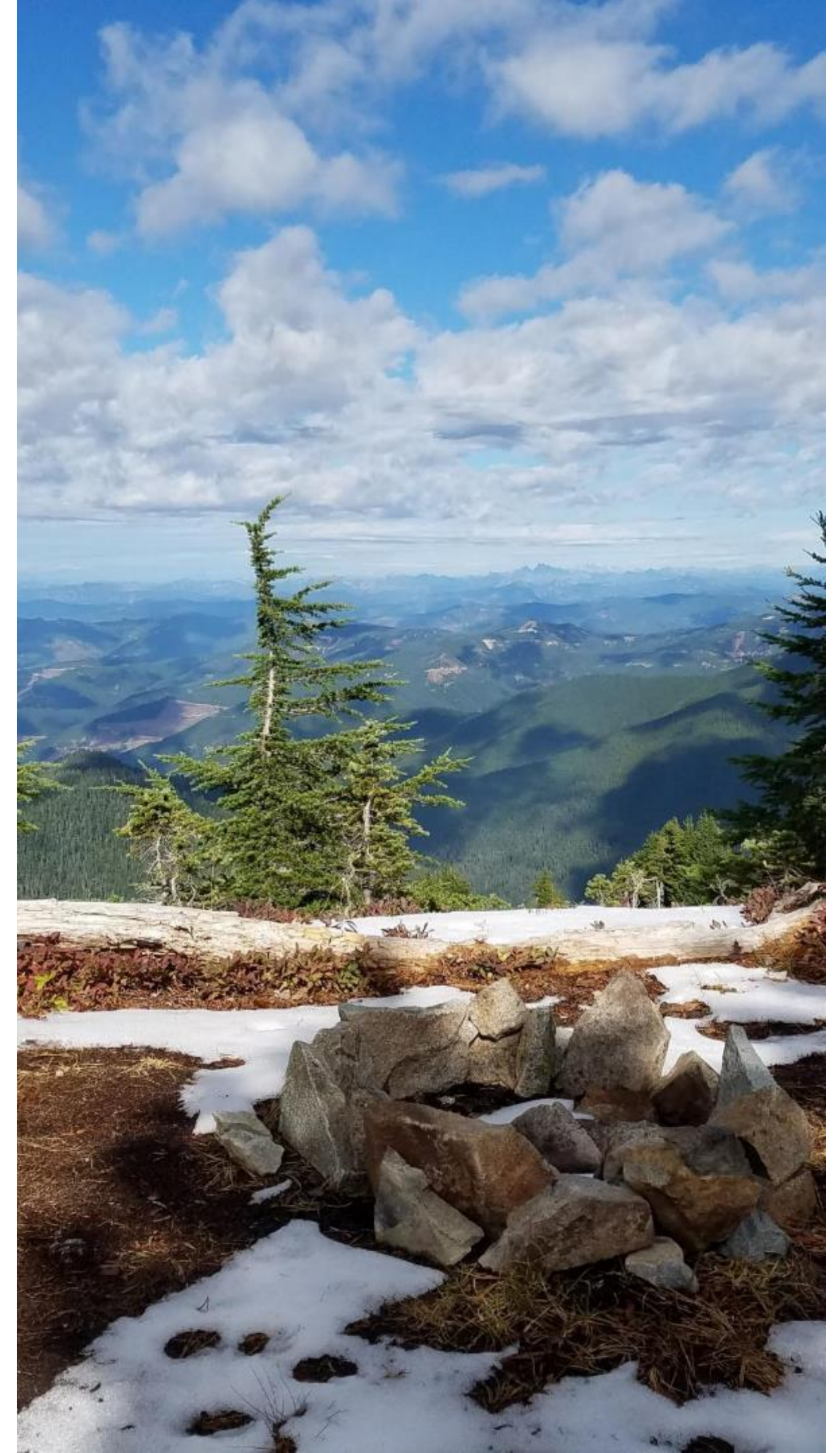
Areas where there was no consensus:

- The projects where the rule should apply.
- The types of emissions the screening process should consider.
- What the applicability threshold should be.

# What We've Heard - Questions

- What are examples of industrial projects?
  - The emissions would determine which projects need to follow the GAP rule. The GHG Reporting data shows projects from multiple sectors would likely be included, such as large boilers, chemical producers, and general manufacturing.
- Would facility emissions be combined with inputs/outputs for applicability?
  - Under our initial thoughts, they would be estimated separately.
- Would all SEPA lead agencies use this rule or just Ecology?
  - The GAP rule would be used by all SEPA lead agencies for applicable projects.
- Can the GAP rule be used for projects that are not applicable?
  - Yes, possibly. A lead agency could use the rule as an example or for guidance.

# Environmental Assessment Methods for Greenhouse Gas Emissions



# Parts of the Environmental Assessment

## “On-site” Emissions

- Focused on the project facility or core project infrastructure at its primary geographic location

## Energy Analysis

- Looking at direct or indirect effects on energy supply, output, load or other energy impacts associated with the project

## Life Cycle Analysis

- Focused on the full life cycle greenhouse gas emissions associated with the project



# Assessment Methods for “On Site” Emissions

We propose using existing methods to assess emissions associated with the project facility or the core project infrastructure.

- **Direct operational emissions**

- Use the existing state greenhouse gas reporting methods (WAC 173-441) which are based on EPA’s similar federal reporting program (40 CFR Part 98).
- Use 40 CFR Part 98 methods if they can be adapted to work with emissions that were not originally covered (e.g., some EPA methods have been developed but never implemented).

- **Indirect operational emissions**

- Rule provides direction for on-site use of electricity and other indirect emissions.

- **Construction & decommissioning emissions**

- Best practices for construction emissions are increasingly common in SEPA and NEPA analyses. The current thinking is to utilize those best practices in the rule.

# Energy Analysis

- In our initial thinking, the Energy Analysis provides information on potential changes in energy use.
  - A project that would increase flow or capacity of energy supply would have to analyze the “downstream” potential impacts, regardless of whether the increased energy or commodity flow is part of the project itself.
  - A project that creates a new line or route of energy supply, or a new type or form of supply, would have to address the implications of those changes if greenhouse gas emissions may be affected.
- The Energy Analysis could also be used for:
  - Geographic Leakage effects - Is the project likely to result in moving greenhouse gas emissions out of state?
  - Market effects – What are the market implications of a shift in energy supply?

# ISO Life Cycle Assessment Standard

- The International Organization for Standardization (ISO) has put in place a series of standards (the 14040 Series) that establish a conceptual framework and guidance to conduct a life cycle assessment (LCA).
- Rather than write a life cycle analysis protocol in the rule, we are proposing that the rule use these ISO standards as a foundational framework.
  - ISO 14040: Environmental management – Life cycle assessment – Principles and framework
  - ISO 14044: Environment management – Life cycle assessment – Requirements and guidelines
- The ISO 14040 standard establishes the principles and framework for how a life cycle assessment should be done
- The ISO 14044 standard provides the requirements and guidelines for a LCA



# Market and Geographic Leakage Effects

- Many of the projects covered by the GAP rule could produce or move products that compete in the global marketplace.
- Understanding these dynamics may require an economic analysis tied in with other modeling efforts.
- Different emissions perspectives are possible in the assessment:
  - Gross emissions – emissions associated only with the project
  - Net emissions – project emissions relative to alternative market scenarios
- Acquiring data can be challenging, especially from foreign sources.
- These projections often have a high level of uncertainty.
- These analyses are typically time and resource intensive.

# What We've Heard - Feedback

We received input and feedback on the environmental assessment section of the GAP rule. Where there was alignment:

- The assessment should use current scientific data and methods.
- The assessment should rely on credible sources of data.
- The assessment should be useful for estimating/comparing emissions.

# What We've Heard - Feedback

Where there was no consensus:

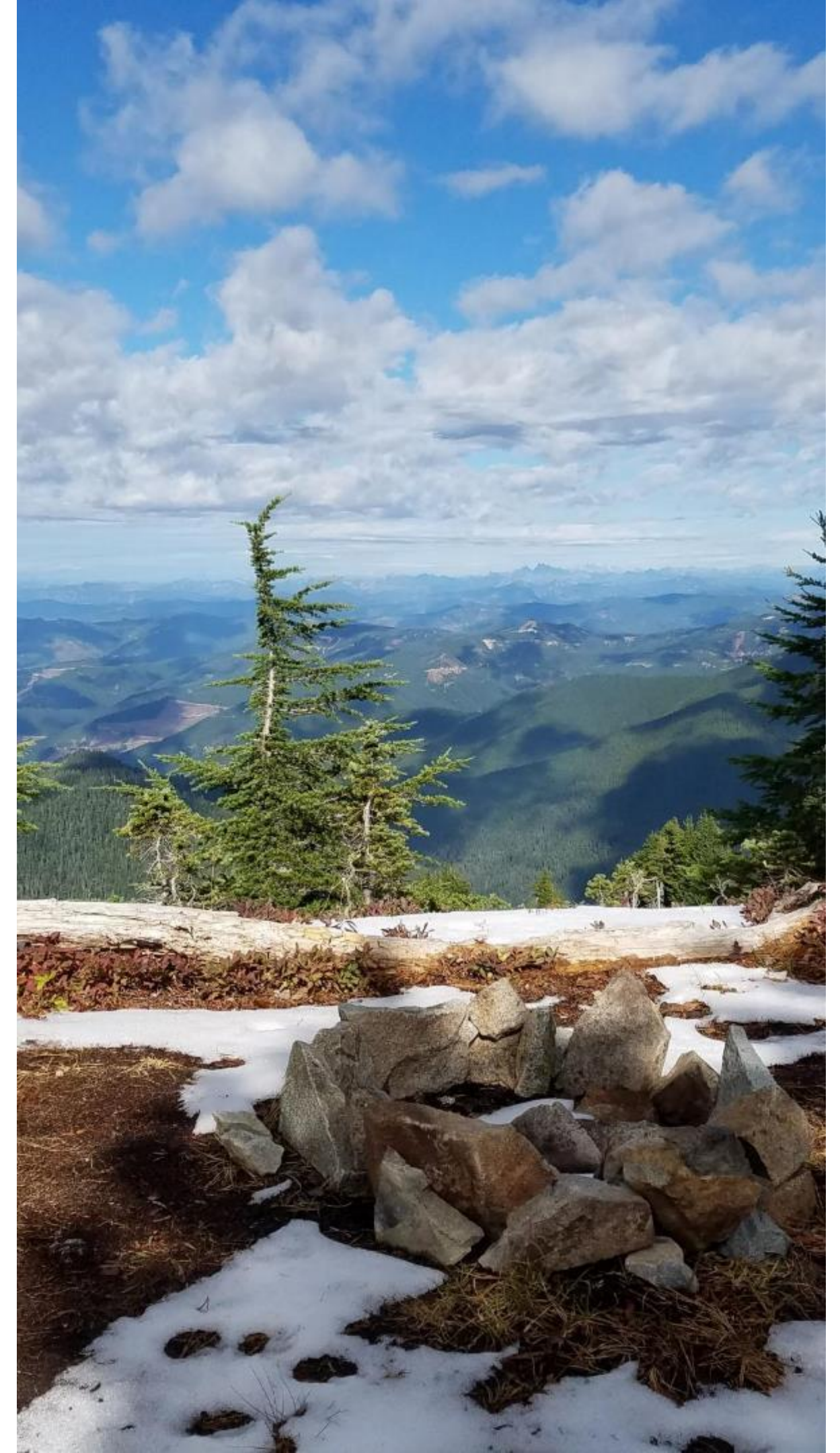
- Emission types analyzed in the assessment.
- Boundaries used for the assessment.
- Use of market analyses, economic analyses, or displacement analyses.
- The threshold for significance.
- If carbon or geographic leakage should be assessed.
- Use of gross or net emissions.

# What We've Heard - Questions

- Would a project for changing an existing facility need to look at inputs/outputs?
  - Yes. The assessment would be based on the change in inputs and outputs for the proposed project.
- Would the assessment allow for different types of methodologies to be used?
  - Yes, for different project types. There are many existing and tested methodologies and analysis tools for specific types of projects which could be used.



# GAP Rule and Mitigation



# GAP Rule and SEPA

- SEPA requires consideration of mitigation to address significant impacts.
- The GAP rule does not change the underlying SEPA process.
- In our initial thoughts:
  - The GAP rule environmental assessment methods would identify GHG emissions from the project to determine potential impacts.
  - The rule would require the applicant develop a mitigation plan to address the GHG emissions of a project.
- Under SEPA, mitigation may be required through the decision or permit processes or could be voluntary.

# GAP Rule Mitigation Overview

- A project applicant would be required to develop a mitigation plan.
- The rule would:
  - Identify the emissions covered by the mitigation plan.
  - Identify the elements that must be included in the mitigation plan.
  - Establish criteria that mitigation projects must meet.
  - Prioritize where mitigation projects should be located.

# Mitigation Coverage

- While the boundaries of the environmental assessment have yet to be determined, it is expected the analysis would cover several types of GHG emissions for a project.
  - On-site emissions
  - In-state emissions (on-site, upstream, and downstream)
  - Upstream out-of-state emissions
  - Downstream out-of-state emissions
- Mitigation could be used to address one or a combination of these.



# Mitigation Types and Criteria

- The rule would allow for mitigation of GHG emissions by:
  - Funding projects directly.
  - Buying offsets through established carbon markets. Offsets would be required to meet quality standards established through internationally-recognized registries.
  
- The rule would require mitigation be all of the following:
  - Real
  - Permanent
  - Enforceable
  - Verifiable
  - Additional

# Mitigation Project Prioritization

- Mitigation projects could be prioritized for:
  - Communities disproportionately affected by climate change
  - Low-income populations
  - Minorities and communities of color
  - Tribal communities
- Mitigation projects could be prioritized geographically with local projects the first priority, then expanding to regional, then national and international projects.

# What We've Heard - Feedback

We received input and feedback on the mitigation section of the GAP rule.  
Where there was alignment:

- Facility on-site emissions should be mitigated.
- Mitigation should:
  - Support equity.
  - Encourage innovative projects.

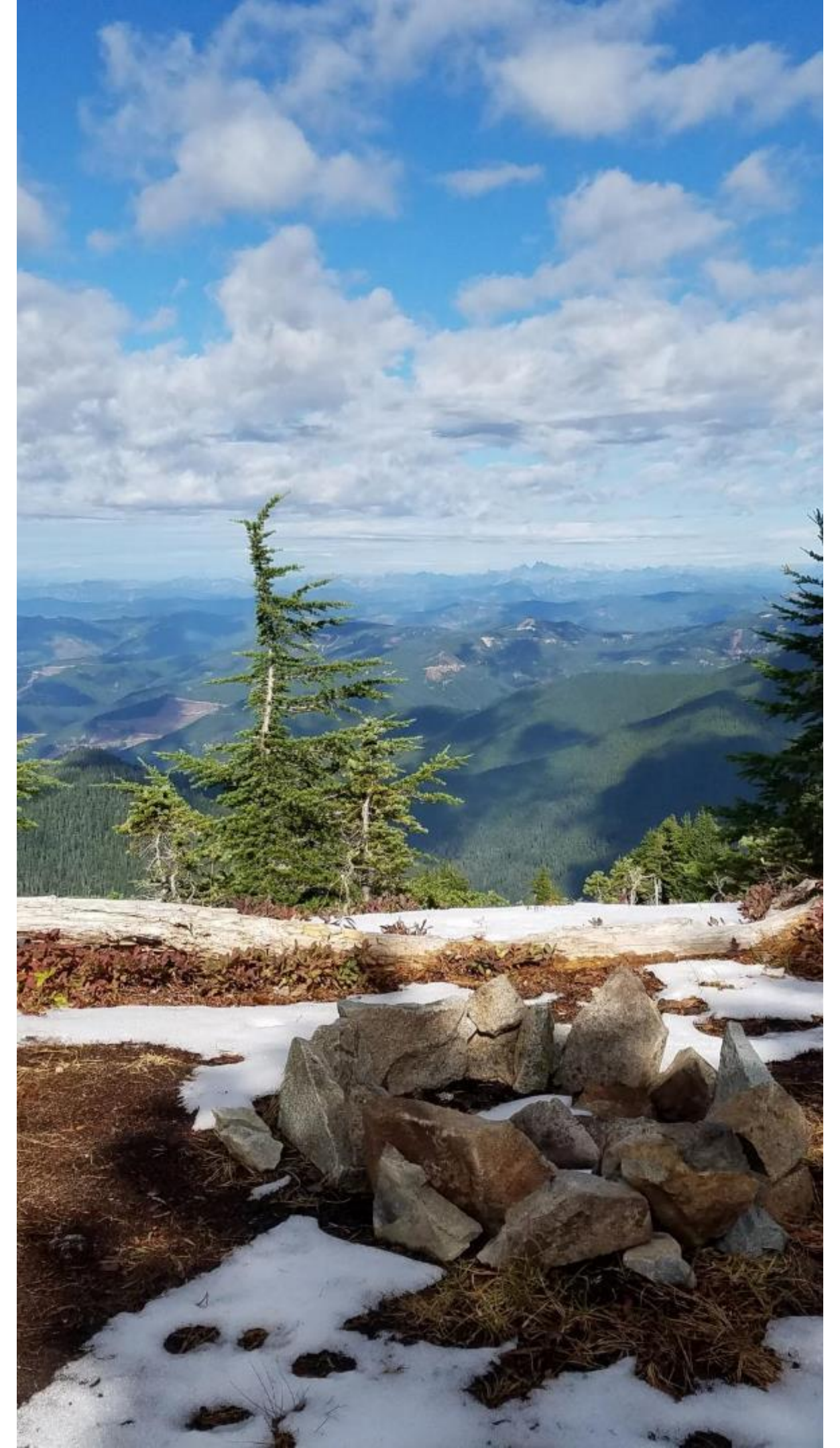
# What We've Heard - Feedback

Areas where there was no consensus:

- The amount/percentage of emissions to be mitigated.
- If upstream and downstream emissions should be mitigated.
- What mitigation should include.



# We'd Like Your Input



# We'd Like Input From You

## Questions about Environmental Assessment:

- What are best practices in estimating construction-related emissions from SEPA or NEPA that we should consider for the rule?
- Have you used the ISO 14040/44 standards to conduct a life cycle analysis? If so, where do you believe the rule needs additional specificity to make implementing the standards practical or feasible?
- Are there special considerations we should take into account for projects that may lack a central facility or clear “on site” emissions (e.g., linear projects)?
- Is it more important to focus on the net emissions or on the gross emissions of a project? What should be the role of global economic analysis (e.g., developing a project global supply and demand curve) in the assessment?
- What should the role of economics play in the Energy Analysis? Is it enough to note where supplies of energy will change, or should the price effects of those changes feed into a dynamic price model (or similar analyses)?



# We'd Like Input From You

## Questions about Environmental Assessment:

- What should the time period for the assessment be? Under SEPA, the analysis usually considers the typical operational lifespan of a project and construction but the time period could be longer to align with the GHG emission limits, or for other reasons.
- Should the rule identify starting and ending points of the life cycle analysis for project inputs and outputs? This could be at specific points, or the rule could provide more general direction, depending on the project type.
- At what point should the analysis terminate downstream? Should the first potential use be included in the life cycle analysis as the end point?
  - For example, in the case of fossil fuels the combustion of that fuel if some other use is not known, or if the first potential use is not demonstrable?
  - For non-fossil fuel products should the first potential use be considered to be the first use, or analyzed as multiple uses, or a final end use of the product?
- If the environmental assessment includes a net emissions analysis, how should this be treated in the mitigation plan?

# We'd Like Input From You

## Questions about Mitigation:

- What types of emissions should mitigation address? On-site emissions, in-state emissions (on-site, upstream, and downstream), upstream out-of-state emissions, downstream out-of-state emissions?
- The Washington State Legislature has established GHG reduction goals for the future; how should these GHG reduction goals influence the mitigation plan?
- Should mitigation vary for different types of projects, such as factories, export facilities, or linear projects like pipelines or electricity lines?
- How should emissions involving projects that modify an existing facility be calculated?
- What process should be used to track and verify emissions subject to mitigation?
- How would changes to calculation methods or emissions be handled?
- How should mitigation projects be prioritized?
- Are there types of mitigation projects which should or should not be included?



# Next Steps

Next, we will

- Consider the input and feedback we have received from you.
- Draft the GAP rule language.

We plan to have more information on the draft rule for informal review near the end of the year or early next year.

Our goal is to release the draft GAP rule and CR102 for public review and formal comment in **April 2021**.

We will use the LISTSERV and GAP Rule webpage to provide updates.

# For More Information

Website:

<https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Rulemaking/WAC-173-445>

Join our email list;

<http://listserv.ecology.wa.gov/scripts/wa-ECOLOGY.exe?SUBED1=GAP-RULE&A=1>

Submit your input and feedback to: <http://sea.ecology.commentinput.com/?id=biVaB>

Email questions, input or feedback to: [gap-rule@ecy.wa.gov](mailto:gap-rule@ecy.wa.gov)

Points of Contact:

Diane Butorac

[diane.butorac@ecy.wa.gov](mailto:diane.butorac@ecy.wa.gov)

(360) 407-6573

Fran Sant

[fran.sant@ecy.wa.gov](mailto:fran.sant@ecy.wa.gov)

(360) 407-6004



**Thank you for participating  
in the webinar!**

