

# Climate Protection Program: Rulemaking Advisory Committee Meeting 6

June 17, 2021  
9 a.m. - 4:30 p.m.

# RAC #6 Agenda

Time	Topic
9 a.m.	Welcome
9:05 a.m.	Meeting ground rules, procedures for public comment
9:10 a.m.	Remarks by Director Whitman
9:20 a.m.	Review upcoming meetings and draft rule
9:25 a.m.	Review draft rule language for community climate investments
10:50 a.m.	Break
11 a.m.	Modeling policy scenarios results review and discussion
12 p.m.	Lunch
12:30 p.m.	Public comment period #1
12:45 p.m.	Review draft rule language for stationary sources
1:50 p.m.	Break
2 p.m.	Review base cap and emissions reduction trajectory
2:45 p.m.	Review draft rule language for compliance instrument distribution
3:15 p.m.	Review updates to initial draft language from version 1 presented at RAC5
4:05 p.m.	Next steps
4:10 p.m.	Public comment period #2
4:30 p.m.	Adjourn meeting

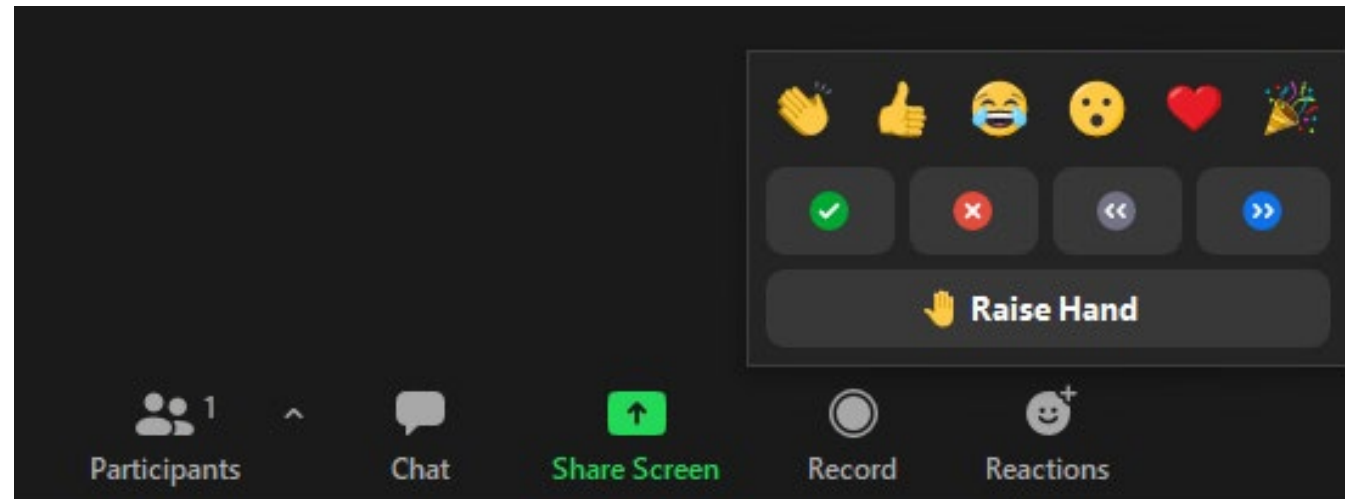
# Participation Tips

## Thank you for joining us today!

- Please join audio by either phone or computer, not both.
- RAC members: stay on mute when not speaking, and please join us on video if able
- Public: please stay on mute and please join us on video only when you're speaking
- For discussion and comments, use "Raise Hand" button to get in the queue; if joined by phone press \*9
- Say your name and affiliation before speaking
- Move around and take care of yourself as needed!
- For Zoom technical issues, send chat message to host

# How to Raise Hand

Look for the Raise Hand in Zoom panel



# Public Participation Protocols

- Public participation is welcome – thank you!
- Two public comment periods
  - 12:30 – 12:45 p.m.
  - 4:10 – 4:30 p.m.
- Time for public comment, though primary purpose is RAC discussion
- When making comments, please respect time limits and ground rules
- We ask for one public comment per person, per meeting
- Welcome to provide written comments
  - [GHGCR2021@deq.state.or.us](mailto:GHGCR2021@deq.state.or.us)
  - Requested by June 25

# Committee Discussion Guidelines

- Honor the agenda and strive to stay on topic
- Provide a balance of speaking time
- Listen to understand and ask questions to clarify
- Stay engaged and be open about your perspective and experience
- Address issues and questions – focus on substance of comments
- Bring concerns and ideas up for discussion at the earliest point in the process

# DEQ and Kearns & West

## Oregon DEQ

**Colin McConnaha**

Manager, Office of GHG Programs

**Nicole Singh**

Senior Climate Policy Advisor

**Matthew Espie**

Climate Policy Analyst

**Lauren Slawsky**

Climate Policy Analyst

**Matt Davis**

Senior Policy Analyst

## Kearns & West

**Sylvia Ciborowski**

Senior Director / Facilitator

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# CPP RAC & Rulemaking Timeline



# CPP Draft Rules Outline (1/2)

Oregon Administrative Rules chapter 340 - proposing new **division 271**

Rule Number	Rule Topic
OAR 340-271-0010	Purpose and Scope
OAR 340-271-0020	Definitions
OAR 340-271-0030	Acronyms
OAR 340-271-0100s	General provisions: <ul style="list-style-type: none"><li>• Overview of general requirements</li><li>• Covered Entity and Covered Emissions Applicability</li><li>• Permitting</li></ul>
<b>OAR 340-271-0300s</b>	Provisions relating to covered stationary sources subject to CPP (best available emissions reduction approach)
OAR 340-271-0400s through -0900s	Provisions relating to covered fuel suppliers subject to the CPP (cap program approach)

# CPP Draft Rules Outline (2/2)

<b>Rule Number</b>	<b>Rule Topic</b>
<b>OAR 340-271-0400s</b>	Generation, distribution, and holding of compliance instruments
OAR 340-271-0500s	Demonstrating compliance
OAR 340-271-0600s	Trading of compliance instruments
<b>OAR 340-271-0800s</b>	Provisions relating to covered fuel supplier eligibility to receive CCI credits
<b>OAR 340-271-0900s</b>	Provisions relating to third-party entities who implement projects with CCI funds
<b>OAR 340-271-1000s through -1200s</b>	Additional provisions to operationalize and streamline the program, such as program review
<b>OAR 340-271-1300</b>	Tables

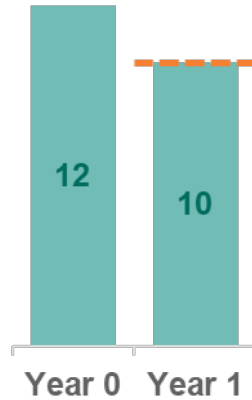
# How CPP Would Work: Fuel Suppliers & Natural Gas



## Entity A

Natural gas utility

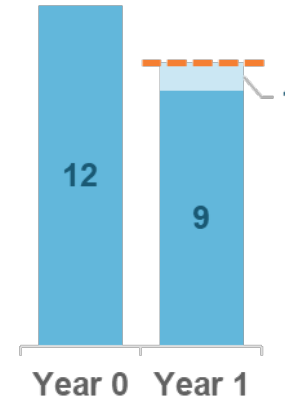
Reduces emissions by using more renewable natural gas



## Entity B

Transportation fuel supplier

Reduces emissions earlier by increasing mix of biofuels, sells extra to Entity D



=



1 compliance instrument

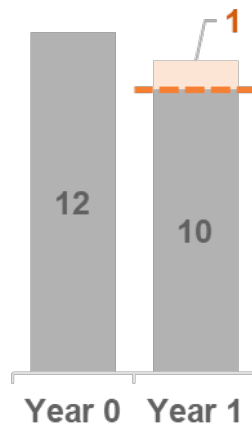
1 metric ton allowable emissions



## Entity C

Transportation fuel supplier

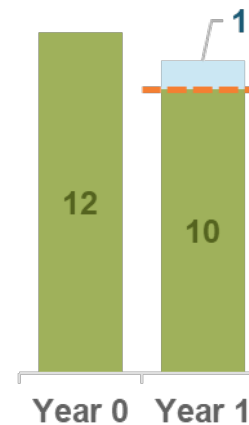
Cannot make enough immediate reductions, but could invest in community climate projects



## Entity D

Natural gas utility

Cannot make enough immediate reductions, buys from Entity B



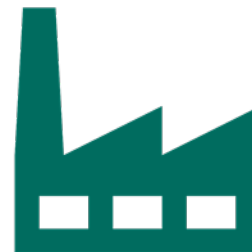
# How CPP Would Work: Stationary Sources

- Best available emissions reduction assessment
- Site-specific, direct regulation
- Can account for different industries, manufacturing processes, practices, emissions reduction technologies and opportunities
- No distribution of compliance instruments

**Best technology,  
operations, practices to  
reduce emissions**



**Site-specific  
considerations**



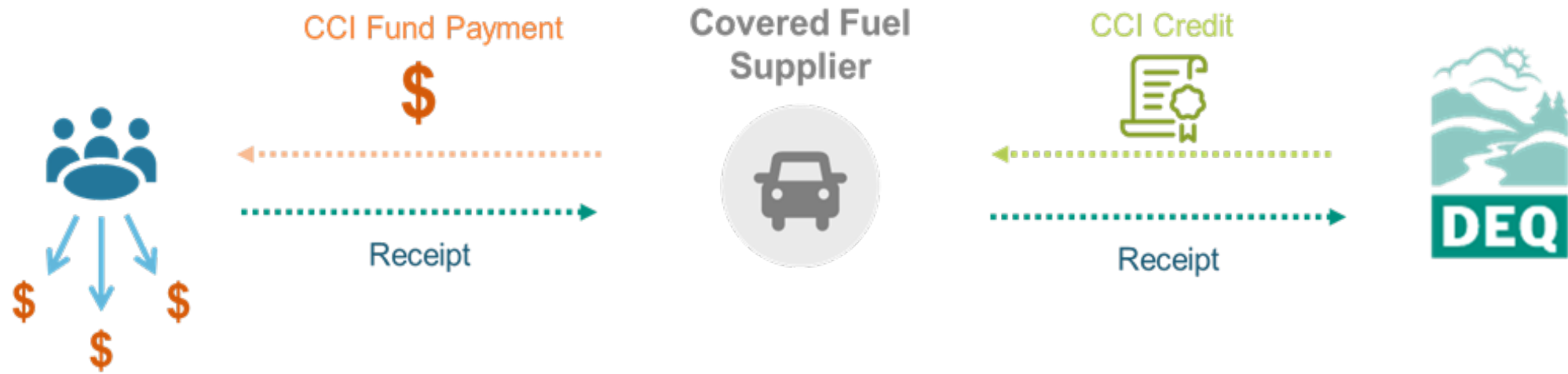
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# Community Climate Investments (CCIs): Overview

Covered fuel suppliers could invest in projects that reduce GHG emissions to earn CCI credits

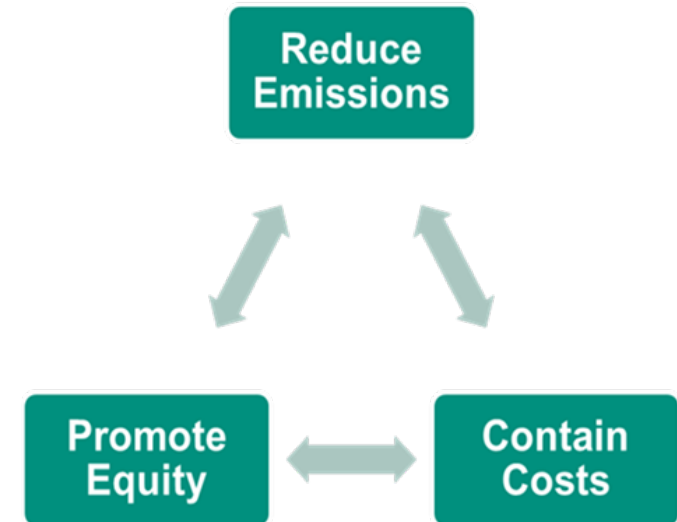
- 1 CCI credit generally equivalent to 1 compliance instrument
- Only alternative compliance option for CPP
- DEQ, with equity advisory committee, selects third parties to receive funds and implement projects
- DEQ sets the same price for each CCI credit
- DEQ distributes CCI credits





# CCI: Overview

- Prioritize projects that benefit communities disproportionately burdened by air contamination, climate change, and energy costs
- Help contain compliance costs and cost to consumers and communities
- Support variety of projects in different communities equally



# CCI Rules Outline

## Covered fuel supplier use of CCI credits for compliance

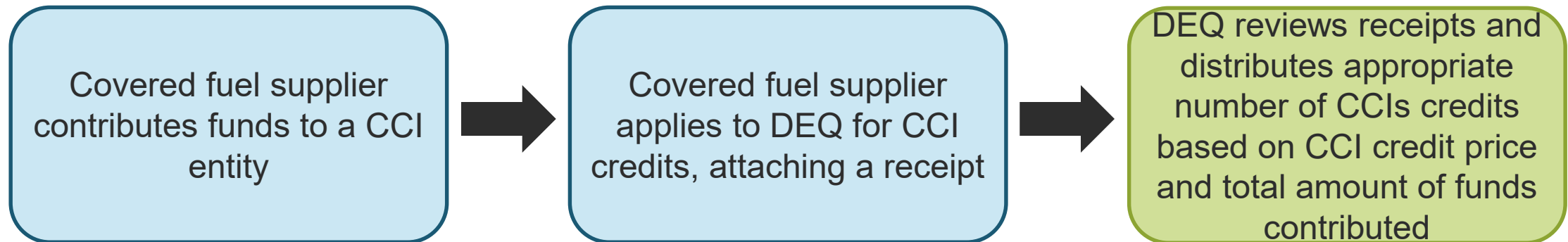
- Rule 0510: Using CCI credits to achieve compliance
- Rule 0810-0820: Obtaining CCI credits
- Rule 0830: Holding CCI credits
- Rule 0890: Recordkeeping requirements for covered fuel suppliers
- Rule 1300: CCI credit prices in 2020 dollars

## CCI entities and CCI-funded projects

- Rule 0910 and 0920: Selection of nonprofit organizations to be CCI entities who implement projects
- Rule 0930: Requirements for project implementation
- Rule 0950: Eligible projects to fund
- Rule 0960: Establishment of equity advisory committee
- Rule 0990: Recordkeeping requirements for CCI entities

# Obtaining and Using CCI Credits (Rules 0510, 0810 and 0820)

- Covered fuel suppliers can meet up to 20% of a compliance obligation with CCI credits. Example:
  - Compliance obligation for a 3-year compliance period is 2,500,000 MT CO<sub>2</sub>e
  - Covered fuel supplier could use 2,000,000 compliance instruments and 500,000 CCI credits



# CCI Credit Price (Rule 0820 and 1300)

- CCI prices are based on EPA social cost of carbon
  - Rule 1300, Table 3: prices measured in 2020 dollars
  - Rule 0820 includes an annual inflation adjustment. DEQ will post inflation-adjusted values on its website
    - For example, \$78 in 2020\$ = \$79 in 2021\$

Effective Date	Price in 2020\$
Date of rules adoption	\$78
March 1, 2022	\$79
March 1, 2023	\$80
March 1, 2024	\$82
...	...
March 1, 2050	\$116

# CCI Credit Banking and Recordkeeping

## Banking

- Rule 0830: Covered fuel supplier may bank CCI credits indefinitely or until:
  - Used to demonstrate compliance
  - Covered fuel supplier meets criteria for cessation
- Rule 0820: A covered fuel supplier can obtain more CCI credits than it can use in a compliance period, limited to half the number of compliance instruments DEQ distributed. This limits the number of CCI credits that can be banked. Example:
  - If DEQ distributes 2,000,000 compliance instruments, the covered fuel supplier can receive up to 1,000,000 CCI credits

## Recordkeeping (Rule 0890)

- Covered fuel suppliers must retain records related to CCIs from the time of payment to the CCI entity until 7 years after the covered fuel supplier uses the CCI credit

# CCI Projects (Rule 0950)

- Must reduce greenhouse gas emissions
- Must be located in Oregon
- Priorities
  - Benefitting Oregon communities disproportionately burdened by climate change, air contamination, or energy costs
  - Reducing other air contaminants

# Equity Advisory Committee (Rule 0960)

- Assist with approving CCI entities and projects
- Represent multiple regions across Oregon
- Represent multiple areas of expertise, interest, and lived experience related to:
  - Environmental justice
  - Impacts of climate change on communities in Oregon
  - Impacts of air contamination on communities in Oregon
  - Greenhouse gases and climate change
- DEQ plans to accept applications and appoint to terms of up to three years.



# Application to be a DEQ-approved CCI Entity (Rule 0910)

501(c)(3) nonprofit organizations may apply to be a CCI entity with an application that includes:

- Information about the organization and planned project partners
  - Proof of eligibility and 3 most recent financial audits
  - Description of mission and key personnel
  - Information about any violations of federal or state labor laws within preceding 5 years
- Information about proposed project(s)
  - Description of the project(s) including potential implementation location(s)
  - Communities who would benefit, including how project(s) would benefit impacted communities
- Description of how project outcomes will be tracked
- Description of financial controls to hold CCI funds separately



# DEQ Approval of CCI Entities (Rule 0920)

- DEQ will consult with equity advisory committee and may consult with others
- Application review:
  - Content and ability to implement the proposed project(s)
  - Comparison to other pending applications and approved CCI entities
  - How proposed projects benefit communities
  - Whether projects benefit communities disproportionately burdened by air contamination, climate change, and energy costs with priority given those projects
  - Consideration of whether benefitted communities are the focus of another CCI projects  
If approved

# CCI Entity Requirements

## Rule 0930: Requirements to Maintain Approval

- Must accept funds from covered fuel suppliers and provide a receipt
- Funds must be held separately from organization's other funds and must be spent according to a DEQ-approved annual work plan
- Any changes to work plans or projects must be approved by DEQ in advance (DEQ will consult with the equity advisory committee)
- Must submit annual reports detailing funds accepted, spent, project outcomes, and most recent financial audit
- If CCI entity approval is revoked, suspended, or voluntarily withdrawn, DEQ may require the CCI entity to transfer any remaining CCI funds to another CCI entity

## Rule 0990: Recordkeeping

- CCI entities must retain records related to funds received, funds spent, and any submittals to DEQ

# Tracking Program Outcomes

## Rule 1000: Program Review

- DEQ will conduct CPP-wide program review every five years and report to the EQC
- Review of CCI reports and related information:
  - Total CCI credits distributed and used
  - Greenhouse gas emissions reductions achieved
  - Reduction of emissions of other air contaminants
- DEQ may recommend rule amendments or other changes to improve program outcomes as necessary

# Breakout Rooms

- Members of the public will remain in the main room while RAC members are in breakout group sessions
- RAC members: when returning to the main room, press “Leave Breakout Room”, NOT “Leave Meeting”



# Proposed Questions for Breakout

1. Any suggestions, considerations, or concerns on the process for approving CCI entities and projects?
2. Any initial thoughts on allowing 20% of a compliance obligation to be met with CCI credits
3. Any comment or suggestions for the proposed approach for determining the price for CCI credit?

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# Modeling Policy Scenario Overview

- DEQ developed four modeling scenarios informed by RAC and public engagement
- Modeling policy scenarios are to inform development of the CPP
  - Do not represent all options for CPP design or specific CPP proposals
- Modeling policy scenarios are compared against a reference case
  - Projected future world without CPP to help understand potential program outcomes
- Summary results include GHG emissions, monetized health benefits, macroeconomic metrics and co-benefits and equity assessment
- Results are both quantitative or qualitative
- Community climate investments (CCIs) are included in emissions modeling and addressed in co-benefits and equity analysis
  - CCIs not included in health and economic analysis

# Policy Scenario Common Assumptions

Key Topic	4 Policy Scenarios	CCI Price Social Cost of CO <sub>2</sub> \$2020 per metric ton																
Cap Application	One cap applied across all sectors using 2010 data for baseline with cap beginning in 2022 <i>(regulated sectors and therefore scopes of regulated emissions vary by scenario)</i>	<table border="1"> <thead> <tr> <th>Year</th> <th>2.5% Average</th> </tr> </thead> <tbody> <tr><td>2020</td><td>\$76</td></tr> <tr><td>2025</td><td>\$83</td></tr> <tr><td>2030</td><td>\$89</td></tr> <tr><td>2035</td><td>\$96</td></tr> <tr><td>2040</td><td>\$103</td></tr> <tr><td>2045</td><td>\$110</td></tr> <tr><td>2050</td><td>\$116</td></tr> </tbody> </table>	Year	2.5% Average	2020	\$76	2025	\$83	2030	\$89	2035	\$96	2040	\$103	2045	\$110	2050	\$116
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2050	\$116																	
Banking Allowed?	Yes; unlimited through time																	
Community Climate Investments (CCI) allowed?	Yes, but allowable percentage for compliance varies by scenario																	
CCI Price (see table)	EPA Social Cost of Carbon using a 2.5% discount rate (starts at \$76 and increases to \$116 in 2020\$)																	
Expanded Complementary Policies	Clean Fuels Program assumed to expand from current 10% by 2025 target to 25% by 2035*																	

\*DEQ intends to open a rulemaking in 2021 to develop expanded Clean Fuels Program targets



# Policy Scenario Different Assumptions

Key Topic	Policy Scenario 1	Policy Scenario 2	Policy Scenario 3	Policy Scenario 4
<b>Cap and Trajectory</b>	Straight line to 80% by 2050	45% by 2035 80% by 2050	50% by 2035 90% by 2050	45% by 2035 80% by 2050
<b>Trading Allowed?</b>	Yes	Yes, excluding stationary sources	Yes	Yes
<b>Regulated under the Cap</b>	<ul style="list-style-type: none"> <li>- Natural gas utilities</li> <li>- Non-natural gas fossil fuel suppliers</li> <li>- Large stationary sources with process emissions <math>\geq</math> 25,000</li> </ul>	<ul style="list-style-type: none"> <li>- Natural gas utilities</li> <li>- Non-natural gas fossil fuel suppliers</li> <li>- Large stationary sources with process emissions plus natural gas emissions <math>\geq</math> 25,000 (includes gas supplied by interstate pipeline companies to those above threshold)</li> </ul>	<ul style="list-style-type: none"> <li>- Natural gas utilities</li> <li>- Non-natural gas fuel suppliers with emissions <math>\geq</math> 300,000</li> <li>- Large stationary sources with process emissions <math>\geq</math> 25,000</li> </ul>	<ul style="list-style-type: none"> <li>- Natural gas utilities</li> <li>- Non-natural gas fossil fuel suppliers</li> </ul>
<b>Emissions not included in the Cap</b>	<ul style="list-style-type: none"> <li>- Fuels used for aviation</li> <li>- Process emissions below threshold</li> </ul>	<ul style="list-style-type: none"> <li>- Fuels used for aviation</li> <li>- Process emissions below threshold</li> </ul>	<ul style="list-style-type: none"> <li>- Fuels used for aviation</li> <li>- Emissions from fuel suppliers below threshold</li> <li>- Process emissions below threshold</li> </ul>	<ul style="list-style-type: none"> <li>- Fuels used for aviation</li> <li>- Large stationary sources are assumed to be regulated under a separate best available technology approach</li> </ul>
<b>Natural Gas Point of Regulation</b>	All natural gas regulated at utility, not at stationary source.	Natural gas regulated at stationary sources if emissions are above threshold. Otherwise, natural gas regulated at utility.	All natural gas regulated at utility, not at stationary source.	All natural gas regulated at utility, not at stationary source.
<b>Use of CCIs</b>	Up to 25% of compliance per year	Up to 5% of compliance per year	Up to 25% of compliance per year	Up to 20% of compliance per year

# Revisions and Updates

- Initial reference case results have been updated since April 2021 RAC meeting
- Update is the result of a modeling correction for application of VISON model transportation fuel use estimates
- Reference case emissions are now higher than initially projected
  - Higher transportation sector emissions
- Since the policy scenarios look at differences from the reference case, the correction results in some emissions changes in some years for policy scenarios
  - Minor changes to co-benefits and equity analysis, which remain positive for all scenarios
  - Economic changes continue to be small overall, but now trend more positive
  - Health results are unchanged as the error was not made when applying the data in COBRA

# Modeling Resources

## **Assumptions and Background:**

<https://www.oregon.gov/deq/Regulations/rulemaking/RuleDocuments/ghgcrModAssumptions.pdf>

## **Results:**

<https://www.oregon.gov/deq/Regulations/rulemaking/RuleDocuments/ghgcr2021modStudyResults.pdf>

## **Modeling study webpage:**

[www.oregon.gov/deq/ghgp/Pages/modelingstudy.aspx](http://www.oregon.gov/deq/ghgp/Pages/modelingstudy.aspx)

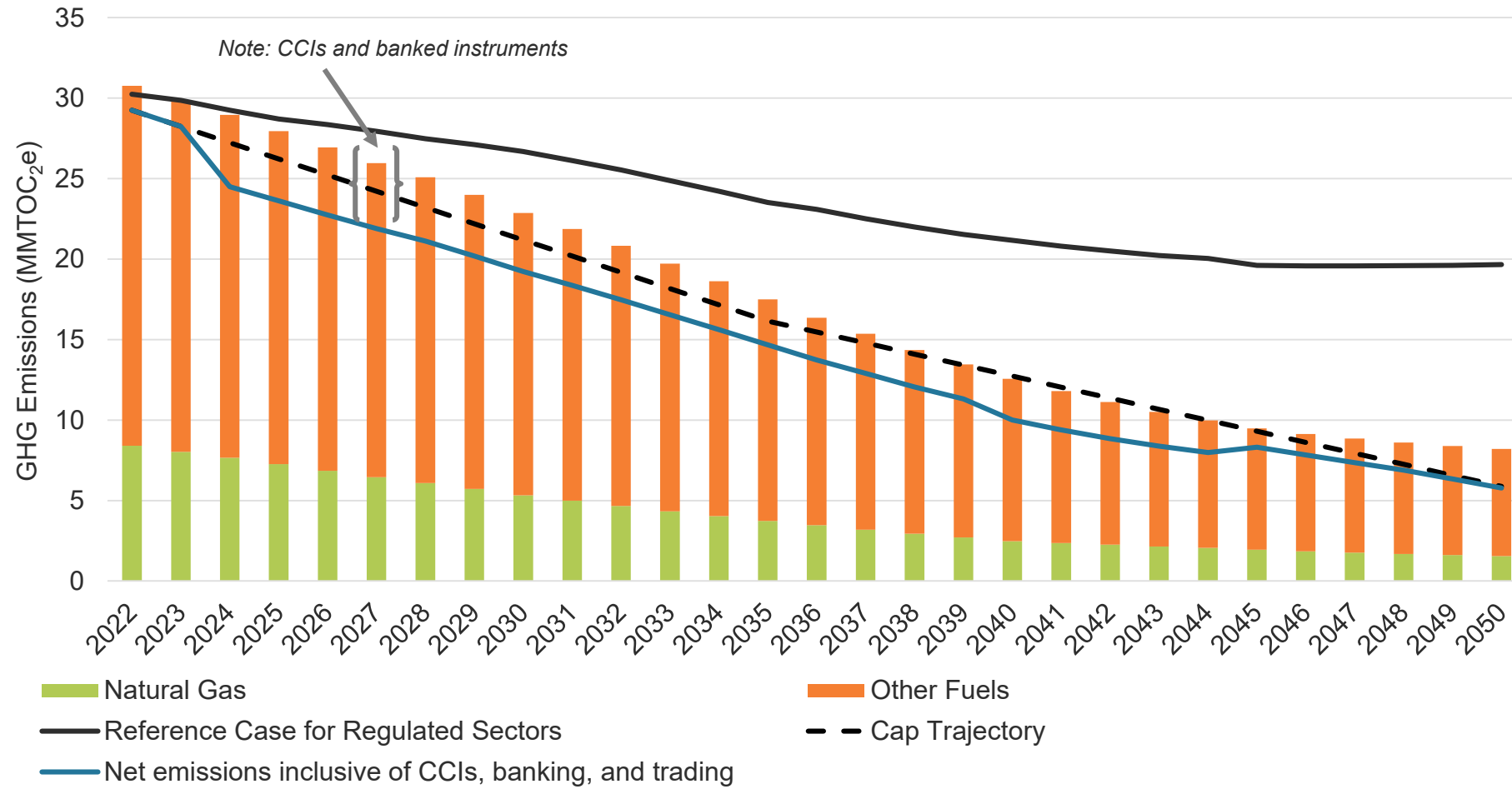
# Greenhouse Gas Emissions

Results and takeaways for four policy scenarios

# Understanding Results in Context

- Modeling assumes that the regulated entities have sufficient knowledge to make optimal decisions in the future
  - E.g., Banking versus trading
- Current technologies and costs are used in the modeling, but available technologies and their costs are likely to change and decline in the future, which would influence actual program outcomes
- Modeling is conducted at the sector level (i.e., natural gas, other fuels) and sub-sector level (e.g., residential, cement manufacturing)
- Results presented are for emissions from regulated sectors

# Emissions Results: Scenario 4



# Emissions Results: All

- Compliance flexibility measures play an important role in achieving emissions reductions
  - Banking used in all scenarios
  - CCIs used to the almost fullest extent in scenarios
- Trading and point of regulation had minimal effects in modeling
- Emissions reductions are driven by transportation sector
- Other reductions are achieved with building energy efficiency, electrification, and renewable natural gas

# Emissions Results: All

Metric	Scenario 1	Scenario 2	Scenario 3	Scenario 4
<b>Cap compliance</b>	All years except 2050	Met through 2023; slightly above 2024-2050	Met through 2042; slightly above 2043-2050	All years
<b>Key policy drivers</b>	CCIs and banking make it possible to achieve the cap, particularly in later years.	Maximum allowable CCIs used in most years. Less availability of banked instruments. Net emissions above caps driven by combo. of interim cap target, CCIs percentage and quantity of regulated emissions.	Maximum allowable CCIs used in most years and supports achievement of cap into later years. Net emissions above cap in later period driven by combo. of lower caps (compared to other scenarios) and earlier use of banked instruments.	Use of allowable CCIs below maximum threshold, mostly in earlier years.
<b>Drivers of emissions reductions</b>	Largest emissions reductions come from fuels, driven by expanded CFP, energy efficiency, and electrification. Natural gas emissions reductions driven by energy efficiency, electrification and RNG.	More extensive residential and commercial electrification driving reductions. Also increased reductions from energy efficiency for non-natural gas fuels. Near maximum modeled technical potential for RNG.	Similar reductions from electrification, RNG, energy efficiency, and industrial process emissions compared to Scenario 2.	Similar reductions from electrification, RNG, and energy efficiency compared to Scenarios 2 and 3.



# Health

Results and key takeaways for final four policy scenarios

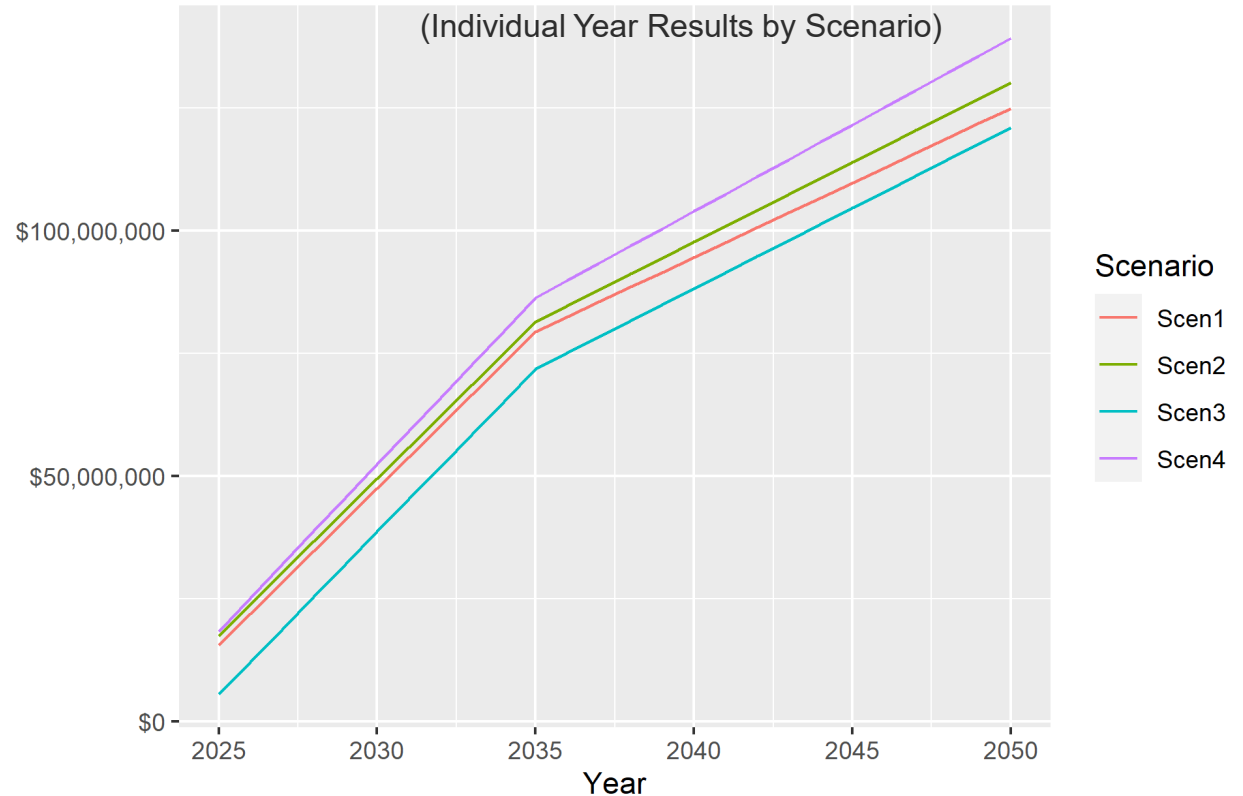
# Assumptions & Results Reporting

- COBRA used to estimate the public health impacts of emissions changes of particulate matter (PM<sub>2.5</sub>) and its precursors (NO<sub>x</sub>, SO<sub>2</sub>, NH<sub>3</sub>, and VOC)
  - Emissions are from fossil fuel combustion only
  - Does not capture any potential benefits from CCIs
- Health outcomes and monetized health benefits for 2025, 2035, 2050 model years
- Scenario 1-3 state-level emissions apportioned to counties using model's default proportions for 2023
- Scenario 4 emissions resolved at the county scale for all sectors
- COBRA population and incidence inputs customized with data from PSU/Metro and OHA

# Health Results Monetized Values, All Outcomes by Year

- Total state-wide \$ health benefits by year for the 3 modeled years
  - High estimates,<sup>1</sup> 2020\$, discounted to the start of the evaluation period (2022) at a 3% rate<sup>2</sup>
- Roughly half the monetized avoided health costs are attributable to avoided mortality
- Reduced incidence of heart attacks and hospital admissions leading contributors to avoided morbidity costs

Total Health Benefits - high estimate (\$)  
Discount: 3%



<sup>1</sup>High estimate reflects health impact functions for mortality and non-fatal heart attacks that result in larger benefits

<sup>2</sup>The discount rate expresses future economic values in present terms. Not all health effects and associated economic values occur in the year of analysis.

# Health Results: Cumulative Results

**Mortality:** Cumulative avoided deaths and corresponding mortality valuation over the life of the program<sup>1</sup>

Scenario 1	Scenario 2	Scenario 3	Scenario 4
166	172	153	183
\$1.01B	\$1.05B	\$0.916B	\$1.11B

**Morbidity:** Cumulative avoided morbidity benefit valuation over the life of the program<sup>1</sup>

Scenario 1	Scenario 2	Scenario 3	Scenario 4
\$1.07B	\$1.11B	\$0.984B	\$1.18B

<sup>1</sup> Integrated from 2025-2050. Assumes linear trend between modeled years and no savings before 2025. Considers both adult and infant mortalities.

# Health Results Summary

- All Scenarios show significant reduction statewide in adverse health impacts
  - Due to changes in criteria pollutant emissions from all modeled sectors statewide, including on-road mobile sources, electricity generation, and other sources
  - Avoided statewide due to reduced exposure to air pollution from 2025-2050 <sup>1,2,3</sup>
- Relatively small differences between scenarios
- Examples:
  - Scenario 2 statewide results: 172 mortalities and monetized values of \$2.16B (2020\$)
  - Scenario 4 statewide results: 183 mortalities and monetized values of \$2.29B (2020\$)

<sup>1</sup> High estimates, monetized at 3% discount. All monetary values discounted to 2022.

<sup>2</sup> Our approach to allocating emissions to COBRA values by county and source's "stack height" preferred preserving all emissions over preserving default county stack heights. A sensitivity analysis showed the latter could increase benefits very modestly (<1.5%).

<sup>3</sup> COBRA valuation component aims to monetize public health benefits, not calculate healthcare cost savings. Many endpoints (e.g., mortality, acute bronchitis) are valued using non-market valuation based on willingness to pay (WTP) estimates. Endpoints for which WTP is not available, valuation is approximated using healthcare cost savings and lost productivity. The valuation estimates represent an approximate value residents of Oregon would place on avoiding the statistical cases of characterized endpoints; these estimates are not comparable with market impact estimates generated by the economic analysis component.

# Economic

Results and key takeaways for four policy scenarios

# Economic Analysis Overview

- IMPLAN economic model analyzes regional economic effects of policy scenarios on a single, pre-specified region (Oregon)
  - Inputs: investments in energy efficiency and electrification, changes in fuel costs savings, impacts on energy producing sectors, budgetary impacts of investments on OR residents and businesses
- Three primary types of impacts (multipliers)
  - **Direct:** Construction employment, direct procurement of materials, equipment rentals, etc.
  - **Indirect:** Supply-chain inputs such as supplies, parts, materials, third-party services, etc.
  - **Induced:** Increased consumption spending on housing, healthcare, goods and services, etc.
- Total impact is the sum of multiple rounds of secondary indirect and induced impacts that remain in the region (accounting for shifts to other regions or states)
- Presented results are for net changes
- Economic results do not incorporate CCI investments or the monetized health benefits

# Results: Employment, Net

- Net job changes are small compared to the overall economy but generally positive
  - Changes are small, ranging from -0.1% to 0.6% of total workforce
- Multiple drivers of impacts:
  - Positive impacts driven by electrification and clean transportation investments as well as fuel cost savings from transition in fuel consumption
  - Negative impacts driven by fossil fuel sector changes and opportunity costs of investments

	Scenario 1			Scenario 2			Scenario 3			Scenario 4		
	2025	2035	2050	2025	2035	2050	2025	2035	2050	2025	2035	2050
<b>Direct</b>	(400)	2,100	13,500	(800)	300	12,500	(1,000)	300	9,700	(900)	1,400	13,700
<b>Indirect</b>	(400)	(760)	(30)	(700)	(1,400)	(400)	(700)	(1,400)	(600)	(700)	(1,400)	(300)
<b>Induced</b>	(200)	1,400	6,100	(800)	400	6,000	(800)	400	5,000	(800)	700	6,300
<b>Total</b>	<b>(1,000)</b>	<b>2,700</b>	<b>19,600</b>	<b>(2,300)</b>	<b>(700)</b>	<b>18,000</b>	<b>(2,600)</b>	<b>(700)</b>	<b>14,100</b>	<b>(2,400)</b>	<b>700</b>	<b>19,700</b>



# Results: GSP and Income (2035 & 2050), Net

**GSP:** Net Gross State Product (GSP) changes are small but positive generally, especially in long run

- Investments and consumer energy cost savings have larger positive impacts than opportunity costs have negative impacts

	Scenario 1		Scenario 2		Scenario 3		Scenario 4	
(\$2020 Million)	2035	2050	2035	2050	2035	2050	2035	2050
<b>Total</b>	530	1,700	460	1,610	460	1,350	560	1,730

**Income:** Net income changes are small and trend upward in later years

- Scenario 4 has the highest net income by 2050, but results are comparable across scenarios
- Results driven by consumer cost changes from energy and fuel consumption
- Consumers save money on these costs and accumulated savings compensate other losses

	Scenario 1		Scenario 2		Scenario 3		Scenario 4	
(\$2020 Million)	2035	2050	2035	2050	2035	2050	2035	2050
<b>Total</b>	240	1,080	110	1,010	110	820	180	1,100

# Economic Results Summary

- Overall, small changes to economy, but generally positive for GSP, income, and jobs
  - Job changes are small, ranging from -0.1% to 0.6% of total workforce
- Results are similar and comparable across the scenarios
- Drivers of results in modeled years
  - Accumulated savings from reduced energy costs outweigh costs of investments in the long run
  - Largest driver comes from transportation sector changes
    - Significant investments in clean transportation expands fuel cost savings and fossil sector impacts
  - Electrification and energy efficiency investments
- Construction and manufacturing sectors see job gains, while trade and transportation sectors see job losses
  - Installation of EE equipment and electrification measures
  - Changes in the fueling infrastructure as well as reduced repair and maintenance demand

# Co-benefits and Equity

Results and key takeaways for four policy scenarios

# Co-Benefits and Equity Analysis: Overview

- **Objective:** For each scenario, assess potential **co-benefits** and positive or negative impacts to **equity**
- **Approach:**
  - **Qualitative assessment** of policy scenarios against identified indicators.
  - **Two assessments:**
    - Co-benefits: *Overall* scenario co-benefits (or damages)
    - Equity: *Distribution* of benefits (or damages) among communities of concern

## Indicators:

- Local air quality (health)
- Ecosystem health & resilience
- Energy Security
- Employment & workforce development
- Housing burden

## Communities of Concern:

- Communities of color
- Tribal nations
- Elderly populations
- Low-income urban communities
- Low-income rural communities

# Co-Benefits and Equity Analysis: Methodology

- **Qualitative rankings:**

1	<b>Negative</b>	The policy will have a <i>significant negative effect</i> on associated indicators.
2	<b>Slightly Negative</b>	The policy will have a <i>modest negative effect</i> on associated indicators.
3	<b>Neutral</b>	The policy will not have a <i>net neutral effect</i> for associated indicators.
4	<b>Slightly Positive</b>	The policy will have a <i>modest positive effect</i> on associated indicators.
5	<b>Positive</b>	The policy will have a <i>significant positive effect</i> on associated indicators.

- **Key information sources:**

- Model results from the health and economic analyses
- Academic literature & white papers specific to the indicators
- DEQ provided assumptions for possible CCI project types

# Key Assumptions/Considerations

- **Timeframe:** Cumulative to 2050, with consideration of potential near-term impacts.
- **External variables:** Constant environmental & economic conditions across scenarios (e.g., climate change).
- **Geographic differentiation:** Co-benefit rankings reflect generalization across state/community.
- **Overlapping communities:** Does not take into account compounding effects of community overlap (e.g., elderly, low-income person of color).
- **CCIs:** Assumed CCIs include funding for transit expansion/electrification; home electrification; energy efficiency improvements; freight fleet conversion.

# Co-Benefits Results: Summary

- Overall, all policy scenarios see increased co-benefits over reference case
- Highest benefits around public and ecosystem health
  - Significant statewide reduction in adverse health impacts
- Housing burden benefits are mixed depending on policy scenario
- GHG reductions, CCIs and other compliance flexibility play an important role in equity and co-benefits

Indicator	Reference Case	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Local air quality	2.5	4	4	3.5	4.5
Ecosystem health & resilience	3	4	4	3.5	4.5
Energy security	2	4	3	4	4
Employment & workforce development	2.5	4.5	4	3.5	4
Housing burden	2	2.5	1.5	2.5	2.5
<b>TOTAL SCORE</b>	<b>12</b>	<b>19</b>	<b>16.5</b>	<b>17</b>	<b>19.5</b>

# Equity Analysis Results: Summary

- Overall, all policy scenarios are projected to benefit identified communities of concern as compared to the reference case
- Compared to other communities of concern:
  - Urban low-income households and communities of color experience most benefits
    - Benefits from CCIs projects and health benefits from emissions reductions from regulated sectors
  - Elderly populations experience the fewest benefits
- Key policy scenario drivers of results include:
  - Type and extent of regulated sectors
  - Allowance of compliance flexibility options like banking and CCIs
  - Associated distribution of impacts across geographies and communities
- Equity benefits of CCIs will rely on targeting areas with communities of concern and GHG and other air pollutant emissions



# Equity Analysis Results: Scenarios 1-2

Indicator Category	Indicator	Reference Case (Total = 50.5)				
		Comm. of Color	Tribes	Urban Low-Income	Rural Low-Income	Elderly
Health	Local air quality	2	2.5	2	2.5	2
Environmental	Ecosystem health & resilience	2	2	2	2	2
Economic	Energy security	2	1.5	2	1.5	1.5
	Employment & workforce development	2	2	2	2	1
Social	Housing burden	2.5	2.5	2	2.5	2.5
<b>TOTAL SCORE</b>		<b>10.5</b>	<b>10.5</b>	<b>10</b>	<b>10.5</b>	<b>9</b>

Indicator Category	Indicator	Scenario 1 (Total = 79.5)					Scenario 2 (Total = 72)				
		Comm. of Color	Tribes	Urban Low-Income	Rural Low-Income	Elderly	Comm. of Color	Tribes	Urban Low-Income	Rural Low-Income	Elderly
Health	Local air quality	4	4	4	4	3.5	4	3.5	4	3.5	3.5
Environmental	Ecosystem health & resilience	4	4	4.5	4	4	4.5	3.5	4.5	3.5	3.5
Economic	Energy security	2.5	2	2.5	2	2.5	2	1.5	2	1.5	2
	Employment & workforce development	3.5	3.5	4	4	1	3	3	3.5	3.5	1
Social	Housing burden	2.5	2.5	2	2.5	2.5	2	2.5	1.5	2.5	2.5
<b>TOTAL SCORE</b>		<b>16.5</b>	<b>16</b>	<b>17</b>	<b>16.5</b>	<b>13.5</b>	<b>15.5</b>	<b>14</b>	<b>15.5</b>	<b>14.5</b>	<b>12.5</b>

# Equity Analysis Results: Scenarios 3-4

Indicator Category	Indicator	Reference Case (Total = 50.5)				
		Comm. of Color	Tribes	Urban Low-Income	Rural Low-Income	Elderly
Health	Local air quality	2	2.5	2	2.5	2
Environmental	Ecosystem health & resilience	2	2	2	2	2
Economic	Energy security	2	1.5	2	1.5	1.5
	Employment & workforce development	2	2	2	2	1
Social	Housing burden	2.5	2.5	2	2.5	2.5
<b>TOTAL SCORE</b>		<b>10.5</b>	<b>10.5</b>	<b>10</b>	<b>10.5</b>	<b>9</b>

Indicator Category	Indicator	Scenario 3 (Total = 70)					Scenario 4 (Total = 79)				
		Comm. of Color	Tribes	Urban Low-Income	Rural Low-Income	Elderly	Comm. of Color	Tribes	Urban Low-Income	Rural Low-Income	Elderly
Health	Local air quality	3.5	3	3.5	3	3	4.5	4	4.5	4	3.5
Environmental	Ecosystem health & resilience	3.5	3	3.5	3	3	4.5	4	4.5	4	4
Economic	Energy security	3	2.5	3	2.5	3	2.5	2	2.5	2	2.5
	Employment & workforce development	2.5	2.5	3	3	1	3	3	3.5	3.5	1
Social	Housing burden	2.5	2.5	2	2.5	2.5	2.5	2.5	2	2.5	2.5
<b>TOTAL SCORE</b>		<b>15</b>	<b>13.5</b>	<b>15</b>	<b>14</b>	<b>12.5</b>	<b>17</b>	<b>15.5</b>	<b>17</b>	<b>16</b>	<b>13.5</b>

# Scenario 4: County-Level Air Quality Health Impacts

**Top 10: % Non-White**  
(most diverse)

Rank	County	% Non-White
1	Jefferson	25
2	Multnomah	21
3	Washington	20
4	Benton	14
5	Klamath	12
6	Marion	11
7	Lane	11
8	Clackamas	11
9	Lincoln	10
10	Polk	10

**Top 10: % Below Poverty Line**  
(least affluent)

Rank	County	% Below
1	Malheur	21
2	Wheeler	19
3	Klamath	19
4	Lake	18
5	Lane	18
6	Josephine	17
7	Grant	16
8	Jefferson	16
9	Coos	16
10	Benton	16

**Top 10: % of Pop. over 65**

Rank	County	% Over 65
1	Wheeler	35
2	Curry	34
3	Grant	30
4	Wallowa	29
5	Lincoln	28
6	Gilliam	28
7	Sherman	27
8	Baker	26
9	Josephine	26
10	Coos	26

**Per-Capita Health Benefits** (previous slides):

- in Top 10
- in Bottom 10

- Communities of color projected to experience relatively higher per-capita health benefits compared to other communities of concern
- Orange highlighted counties have higher proportions of communities of concern and are projected to receive among the lowest per-capita health benefits
  - These counties could benefit from CCIs

For the health modeling, Scenario 4 used a different resolution (more detailed county-level data). Differences from Scenarios 1-3 will be due to both changes in the methodology and the underlying data.

# Modeling Results Summary: All Scenarios

	Metric	Scenario 1	Scenario 2	Scenario 3	Scenario 4
GHG Emissions	Cap compliance	All years except 2050	Met through 2023; slightly above 2024-2050	Met through 2042; slightly above 2043-2050	All years
	Cumulative GHG reductions statewide from Ref. Case, including use of CCIs: 2022-2050 (Mil. MTCO <sub>2e</sub> )	-298	-210	-309	-269
Health	Cumulative premature deaths avoided	166	172	153	183**
	Cumulative monetary valuation of avoided adverse health outcomes (\$Bil)	2.08	2.16	1.90	2.29**
Economics*	Net employment impacts in 2050	19,600	18,000	14,100	19,700
	Net GSP impacts in 2050 (\$Mil)	1,700	1,610	1,350	1,730
	Net income impacts in 2050 (\$Mil)	1,080	1,010	820	1,100
Co-benefits & Equity	Co-benefits analysis score	19	16.5	17	19.5
	Equity analysis score	79.5	72	70	79

\*Emissions and health impacts shown here are cumulative. Economic impacts represent annual impacts in 2050 (i.e., a snapshot of that year).

\*\*For the health modeling, Scenario 4 used a different resolution (more detailed county-level data). Differences from Scenarios 1-3 will be due to both changes in the methodology and the underlying data.

# DEQ Reflections on Modeling

- Significantly reduce GHG emissions while maintaining overall health of economy
- Improve public health by reducing emissions and support equity
- Important to understand any relevant differences in scenario results
- All scenarios:
  - Significant reductions statewide in adverse health impacts
    - Cumulative monetized health benefit of approximately \$2 billion (2020\$)
  - Very little overall macroeconomic change
    - Small changes to economy, but net positive trends for GSP, income, and jobs
  - Increased co-benefits and benefits for identified communities of concern
    - Urban low-income households and communities of color experience the most benefits
    - Important for CCI design to effectively support and engage environmental justice and impacted communities in transition to a low-carbon future

# Questions and Discussion

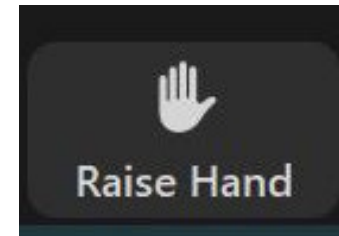
1. Questions?
2. Any conclusions you would draw from policy scenario results that should be reflected in CPP?

# RAC #6 Agenda

Time	Topic
9 a.m.	Welcome
9:05 a.m.	Meeting ground rules, procedures for public comment
9:10 a.m.	Remarks by Director Whitman
9:20 a.m.	Review upcoming meetings and draft rule
9:25 a.m.	Review draft rule language for community climate investments
10:50 a.m.	Break
11 a.m.	Modeling policy scenarios results review and discussion
12 p.m.	Lunch
<b>12:30 p.m.</b>	<b>Public comment period #1</b>
12:45 p.m.	Review draft rule language for stationary sources
1:50 p.m.	Break
2 p.m.	Review base cap and emissions reduction trajectory
2:45 p.m.	Review draft rule language for compliance instrument distribution
3:15 p.m.	Review updates to initial draft language from version 1 presented at RAC5
4:05 p.m.	Next steps
4:10 p.m.	Public comment period #2
4:30 p.m.	Adjourn meeting

# Public Comment Period

- Public comment period: 12:30 – 12:45 p.m.
- Raise your hand if you'd like to make a comment
- When making public comments, please:
  - Respect time limits as assigned
  - Use respectful language
  - Address issues and questions—focus on substance
  - When possible, relate comments to topics on the RAC agenda
- Members of the public welcome to provide written input to [GHGCR2021@deq.state.or.us](mailto:GHGCR2021@deq.state.or.us) by Jun. 25





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# BAER Approach

- Best available emissions reduction (BAER)
  - More traditional facility-specific and direct regulatory approach for covered stationary source emissions
- Requires site-specific assessments and implementation of strategies that achieve on-site GHG emissions reductions
  - Currently drafted as **a technology standard**
  - Available strategies to reduce covered emissions may include:
    - Fuels
    - Processes
    - Equipment
    - Technology
    - Other actions and techniques that reduce emissions

# Applicability: Covered Stationary Sources

## Rule 0110 Section (5): stationary sources

- Determines which sources and emissions are regulated under the best available emissions reduction approach
- Covered stationary sources include:
  - Existing permitted sources with covered emissions that are  $\geq 25,000$  MTCO<sub>2</sub>e
  - New sources expected to have covered emissions  $\geq 25,000$  MTCO<sub>2</sub>e
- Covered emissions
  - Anthropogenic GHG emissions from industrial processes and combustion of certain fuels not already regulated by covered fuel suppliers under the cap

# BAER Assessments

## Rule 0310: **BAER Assessments**

- **Existing sources** conduct a BAER assessment when notified by DEQ and submit to DEQ within one year of notification
- **New sources** conduct a BAER assessment and submit to DEQ when applying for permits
- Periodic assessment
  - Five year review reports are required to identify available strategies at that time → If new strategies are identified, DEQ may require an updated BAER assessment
  - DEQ may require updated BAER assessments, but will do so no sooner than every five years
- Every time a BAER assessment is submitted, DEQ can make or update a BAER determination to set required actions to reduce covered emissions

# BAER Assessments

## Rule 0310(2): **BAER Assessments must include:**

- a. Description of production processes and flow chart of each
- b. Identification of all fuels, processes, equipment, and operations that contribute to anthropogenic GHG emissions
  - Estimates of annual average GHG emissions, covered emissions, and fuel usage by type
- c. Identification of available strategies to reduce covered emissions, including strategies used by other similar sources
- d. Explanation of technical reasons why any of the above cannot feasibly be installed
- e. Assessment of remaining available strategies
- f. Ranking of strategies by ability to reduce covered emissions
- g. Identification of preferred strategies

# DEQ BAER Determination

## Rule 0320: **DEQ BAER Determination**

- DEQ determination of the required actions to limit covered emissions from a covered source

### DEQ may consider:

- Information in assessment
- Maximizing covered emissions reductions
- Strategies used by other similar sources
- Impacts, including but not limited to air quality impacts and energy impacts, such as those related to fuel switching
- Remaining useful life of the source
- Actions that are achievable, technically feasible, commercially available, and cost-effective

### DEQ may consult with:

- Industry experts
- Consultants/third-party organizations
- Communities in Oregon

DEQ will also coordinate across state programs (e.g. Cleaner Air Oregon, Regional Haze)

### DEQ will:

- Set the required actions and timeline to reduce covered emissions
- Notify the source in writing of the DEQ BAER determination

# BAER Determination and Permitting

- Rule 0150(2): covered stationary sources must apply for a CPP permit addendum to incorporate the BAER determination requirements and also submit an implementation plan
  - **Existing sources:** the CPP permit addendum will amend the permit until it can be incorporated
  - **New sources:** the CPP permit addendum will be incorporated directly into the new permit, when issued by DEQ
- DEQ permits are a legal document
  - Set requirements
  - Used by DEQ inspectors when making site visits

# Covered Stationary Sources

## Rule 0330: **Compliance related to BAER**

- Covered stationary sources must implement required actions of BAER
- Annual progress reports due July 31
  - Description of progress in implementing
  - Schedule, including dates of incremental progress and estimated date of completion
  - Description of any increases or decreases in covered emissions that have occurred since the BAER assessment
- Completion report due within 60 days of completion (except for items related to ongoing actions)
  - Date of completion
  - Final actions taken
  - Estimate of resulting/expected covered emissions reductions

Rule 0390: retain records for at least 10 year



# Questions for Discussion

1. Any clarifying questions about the best available emissions reduction approach?
2. Do you have any suggestions for how DEQ could prioritize the call in for when existing sources must conduct their first BAER assessment?
3. Are there provisions that make sense to better align with existing permitting requirements?
  - a. For example, the drafted annual progress reporting deadline is July 31. Is there a different date that would make more sense given other existing reporting requirements?

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# Determining the Cap: Overview and Considerations

- Cap applies to covered fuel suppliers
  - Natural gas utilities
  - Fuel suppliers  $\geq$  200,000 MTCO<sub>2</sub>e threshold
- Two step process
  - Establishing a “base cap”- the initial cap in 2022
  - Determining a reduction trajectory
- Reduction goals usually use 1990 baseline but don't have that data
- DEQ reporting data by entity starts in 2010
- Most comments supported grounding the base cap in reported data

# Leaning on Base Cap and Reduction Trajectory

Cap applies to natural gas utilities and fuel suppliers  $\geq$  200,000 MTCO<sub>2</sub>e threshold

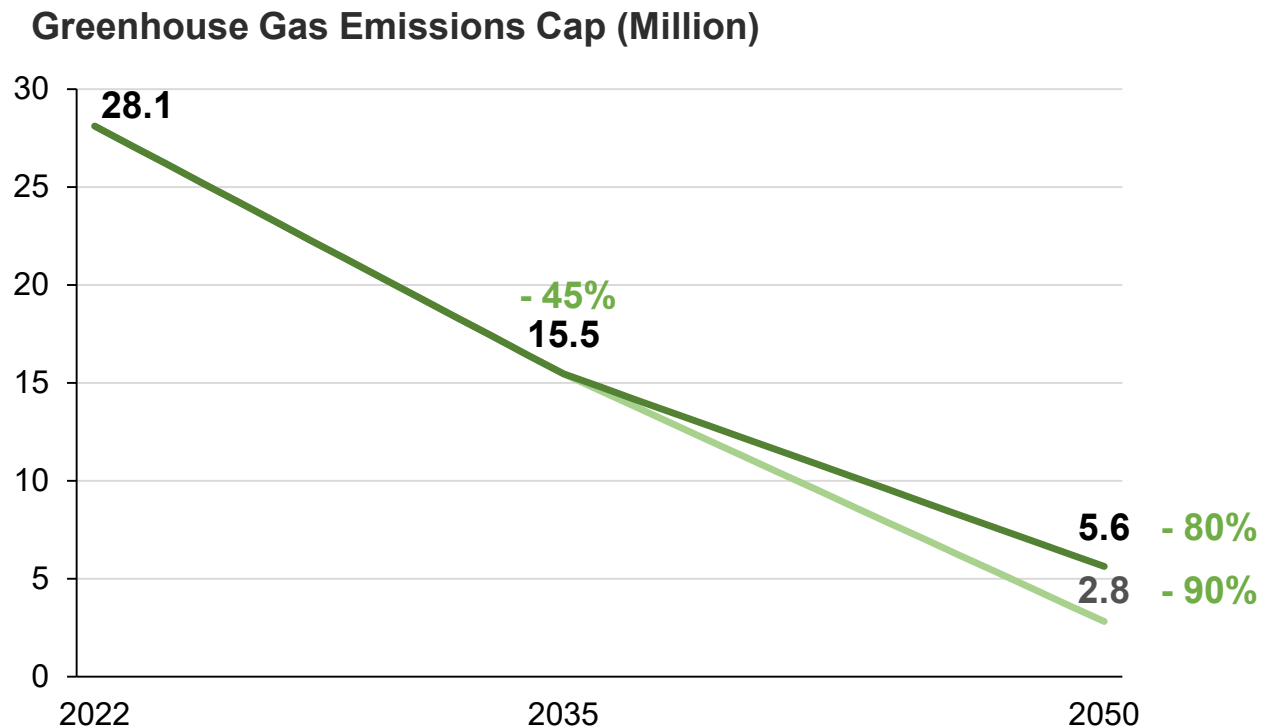
## DEQ's Leanings:

### Base Cap

- Should be based on recently reported data
- Should use a three-year average to mitigate annual variation (2017-2019)

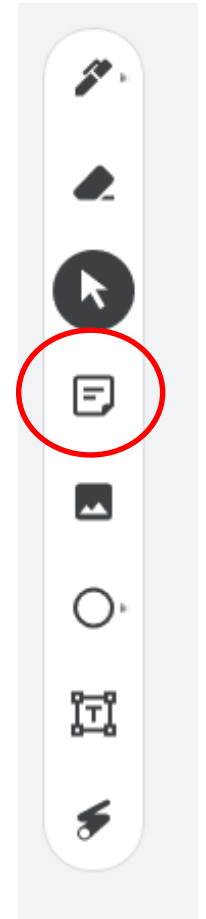
### Targets

- 2035 cap is 45% reduction from base
- 2050 cap is 80% reduction from base



# Jamboard Instructions

- RAC members invited to provide comment using interactive online tool – click on link provided in chat
- Use “sticky note” tool by clicking on icon on left-hand side toolbar
- Type your comment in the sticky note
- Do not select “clear frame” button. If you accidentally select it, select the “undo” arrow on the left side of the options bar and it will bring it back.
- Do not move sticky notes as they come onto the Jamboard. KW staff will move the notes around.



# Questions for Discussion

1. Do you support DEQ's leaning for calculating the 2022 base cap? If not, what would you propose?
2. Do you support DEQ's leaning for an interim 2035 target and final 2050 target? If not, what would you propose?

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# Proportional Distribution (Rule 0420 and 1300)

- Covered fuel suppliers receive compliance instruments based on proportion of covered emissions using historical data updated annually
  - For example, a covered fuel supplier that emitted 1% of total covered emissions would receive 1% of compliance instruments.
- Applicable to suppliers who have at least three years of historical data available and are known to be covered at the time of distribution

Emissions years for evaluation period	Year in which evaluation to determine amount (and possibly distribution) occurs	Cap year for distribution of compliance instruments
2018 through 2020	2021	2022
2019 through 2021	2022	2023
Each subsequent three-year period	Each subsequent year	Each subsequent year



# Compliance Instrument Reserve (Rule 0420)

- Compliance instrument reserve is used for covered fuel suppliers without three years of historical data or who are not known to be covered at the time of the proportional distribution
  - For example, a covered fuel supplier exceeds the 200,000 MT CO<sub>2</sub>e threshold in 2022 after DEQ has already distributed 2022 compliance instruments
- Reserve of 1 million compliance instruments (balance rolls over annually)
- Maximum distribution from the reserve is 300,000 compliance instruments per covered fuel supplier per year

# Cessation (Rule 0130 and 0430)

- A covered fuel supplier is no longer covered after its emissions are below the threshold for six consecutive years
- After cessation, compliance instruments may be retired, redistributed, or held in the reserve
  - Redistribution will be proportional based on covered emissions using same evaluation schedule as proportional distribution methodology
  - Redistribution will only occur if there are at least 10,000 compliance instruments and each covered fuel supplier will receive at least 1
  - If held in the reserve instead, then fewer compliance instruments would be held in the reserve from the next annual distribution

# Questions for Discussion

1. Do you support the proposed process for proportional distribution of compliance instruments? If not, what would you propose?
2. Do you support the proposed process to use a compliance instrument reserve for new entrants to the program? If not, what would you propose?

# RAC #6 Agenda

Time	Topic
9 a.m.	Welcome
9:05 a.m.	Meeting ground rules, procedures for public comment
9:10 a.m.	Remarks by Director Whitman
9:20 a.m.	Review upcoming meetings and draft rule
9:25 a.m.	Review draft rule language for community climate investments
10:50 a.m.	Break
11 a.m.	Modeling policy scenarios results review and discussion
12 p.m.	Lunch
12:30 p.m.	Public comment period #1
12:45 p.m.	Review draft rule language for stationary sources
1:50 p.m.	Break
2 p.m.	Review base cap and emissions reduction trajectory
2:45 p.m.	Review draft rule language for compliance instrument distribution
<b>3:15 p.m.</b>	<b>Review updates to initial draft language from version 1 presented at RAC5</b>
4:05 p.m.	Next steps
4:10 p.m.	Public comment period #2
4:30 p.m.	Adjourn meeting

# Additional Key Updates in Draft Rules

In version 2 (RAC6) compared to version 1 (RAC5):

- Purpose and Scope (Rule 0010):
  - Clarified prioritization of disproportionately impacted communities
  - Specified examples of disproportionately impacted communities: Black, Indigenous, communities of color, and low-income and rural communities
- Definitions and Acronyms (Rules 0020 and 0030):
  - Updates related to CCI, stationary sources, and other terms
- CPP Program Requirements (Rule 0100)

# Additional Key Updates in Draft Rules

- Applicability (Rule 0110):
  - Fuel supplier is covered if its covered emissions meet or exceed the threshold in any year since 2018
  - During program implementation, a fuel supplier is covered beginning the first year it meets or exceeds the threshold
- Changes in ownership (Rule 0120 and 0510):
  - Any change in covered entity ownership must be reported to DEQ. Covered entities remain covered following a change in ownership. Covered fuel suppliers continue to hold compliance instruments after the change in ownership.
  - The new owner is responsible for demonstrating compliance

# Additional Key Updates in Draft Rules

- Permit Requirements (Rule 0150):
  - Covered fuel suppliers must apply for a CPP permit within 30 days of adoption of this division, or by January 31 of the year after they become covered
  - Covered stationary sources must apply for a CPP permit addendum within 30 days of the effective date of a BAER determination
- Notification of Trades (Rule 0610):
  - Trade reports no longer allow for qualitative description; must include a price per compliance instrument
- Program Review (Rule 1000):
  - DEQ will conduct a program review every five years

# Other Topics for Draft Rules

- Third party market participants (entities without compliance obligations)
  - Do not receive compliance instruments from DEQ
  - Third party market participants or market intermediaries could exist under draft rules
  - Do not hold compliance instruments under the draft rules
  - May be value in allowing market third party participants to hold compliance instruments
    - Could determine if there should be an application process for participation
- “Complete combustion” used as it aligns with emissions reporting
- Related entities
  - Division 215 (GHG reporting) definitions are incorporated, which includes “related entity”: any direct parent company, direct subsidiary, or company under common ownership or control



# Questions and Comments

1. Any questions or reflections on the draft rule updates?
2. Other comments or questions about the discussion today?

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# Next Steps: Written Comments

- DEQ accepting written comment on:
  - All portions of the draft model rule
  - Information and resources that may be helpful to inform the fiscal impacts analysis
  - Please submit comments by end of day **Jun. 25, 2021** to [GHGCR2021@deq.state.or.us](mailto:GHGCR2021@deq.state.or.us)

# Next RAC Meeting

- Next rulemaking advisory committee meeting is **Jul. 8, 2021, 9 a.m. to 4:30 p.m. PT**
  - Review of fiscal impacts analysis
  - Review of DEQ enforcement procedures
  - DEQ leanings on enforcement for CPP

# RAC Meeting Resources

## **Sign up for meeting notifications:**

[https://public.govdelivery.com/accounts/ORDEQ/subscriber/new?topic\\_id=ORDEQ\\_655](https://public.govdelivery.com/accounts/ORDEQ/subscriber/new?topic_id=ORDEQ_655)

## **Rulemaking webpage:**

[www.oregon.gov/deq/Regulations/rulemaking/Pages/rghgcr2021.aspx](http://www.oregon.gov/deq/Regulations/rulemaking/Pages/rghgcr2021.aspx)

## **Rulemaking contact:**

[GHGCR2021@deq.state.or.us](mailto:GHGCR2021@deq.state.or.us)

## **Modeling study webpage:**

[www.oregon.gov/deq/ghgp/Pages/modelingstudy.aspx](http://www.oregon.gov/deq/ghgp/Pages/modelingstudy.aspx)

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# Public Comment Period

- Public comment period: 4:10 – 4:30 p.m.
- Raise your hand if you'd like to make a comment
- When making public comments, please:
  - Respect time limits as assigned
  - Use respectful language
  - Address issues and questions—focus on substance
  - When possible, relate comments to topics on the RAC agenda
- Members of the public welcome to provide written input to [GHGCR2021@deq.state.or.us](mailto:GHGCR2021@deq.state.or.us) by Jun. 25

