

Climate Protection Program: Rulemaking Advisory Committee Meeting 3

Mar. 18, 2021
9 a.m. - 3:45 p.m.

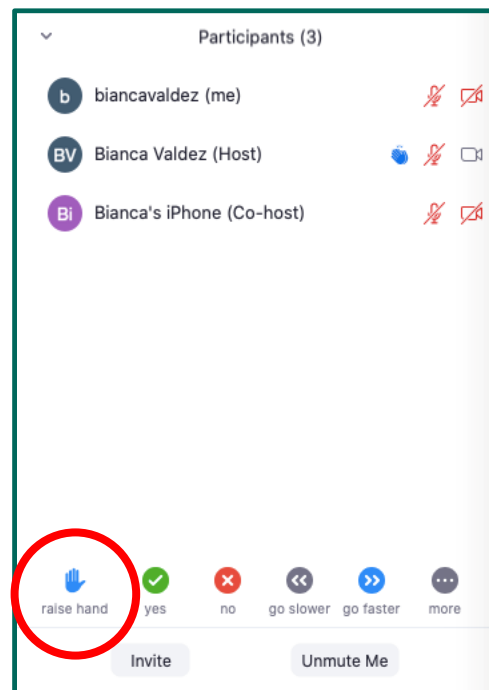
Participation Tips

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 the Participants Tab



Public Participation Protocols

- Public participation is welcome – thank you!
- Two public comment periods
 - 1:15 – 1:45 p.m.
 - 3:15 – 3:45 p.m.
- Time for public comment, though primary purpose is RAC discussion
- When making comments, please respect time limits and ground rules
- Welcome to provide written comments
 - GHGCR2021@deq.state.or.us
 - Requested by March 26

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

Lauren Slawsky

Climate Policy Analyst

Matthew Espie

Climate Policy Analyst

Chloe Brown

Greenhouse Gas Programs Analyst

Matthew Davis

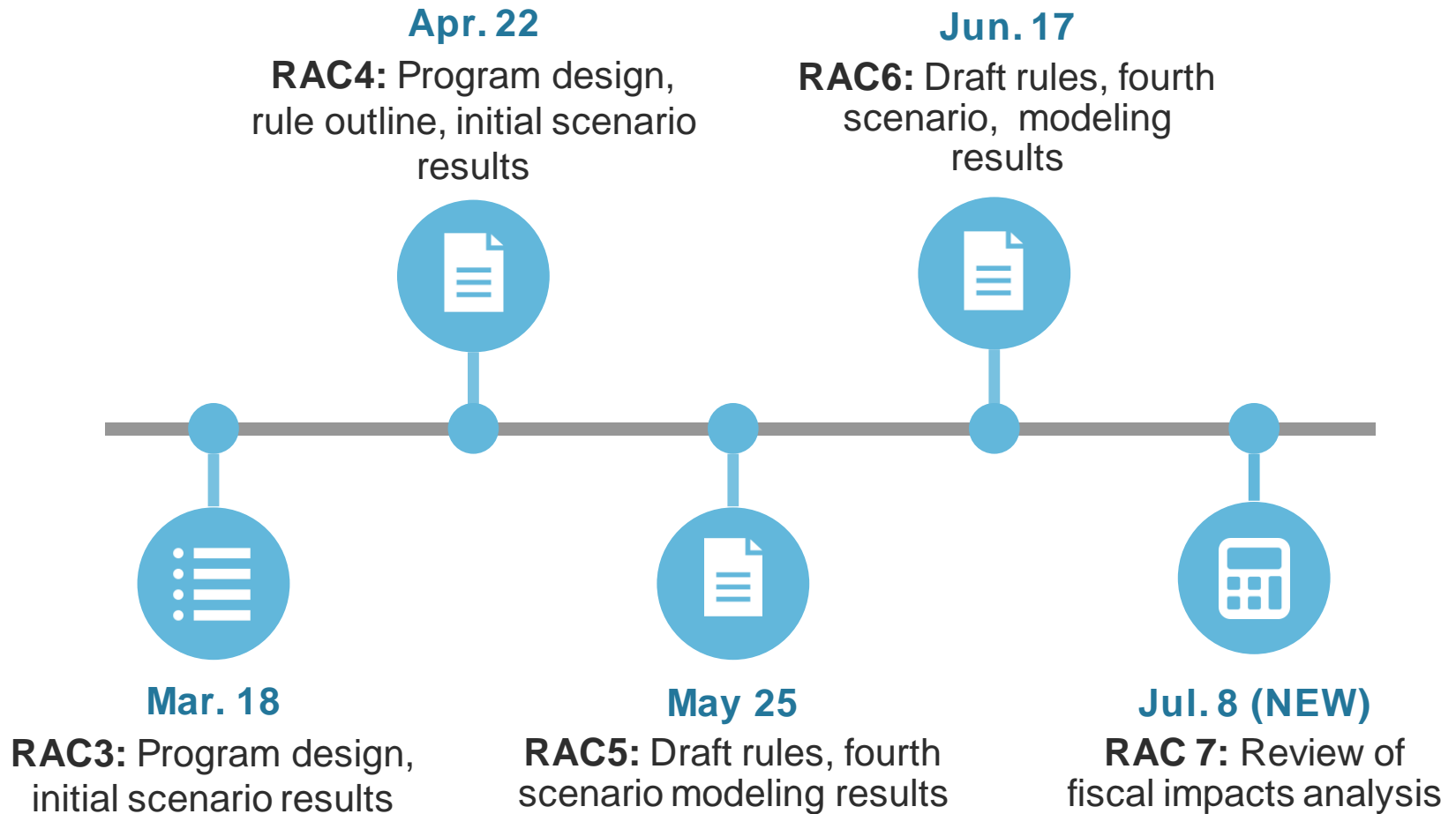
Senior Policy Analyst

Kearns & West

Sylvia Ciborowski

Senior Director / Facilitator

RAC Work Plan Updates



How CPP Could Work

In a fictional example: DEQ has 40 compliance instruments to distribute to four regulated entities.

Each receives **10** compliance instruments. Because they all emitted **12** metric tons last year, each will need to reduce their emissions.



Entity A
Stationary source



Entity B
Transportation fuel supplier



Entity C
Transportation fuel supplier



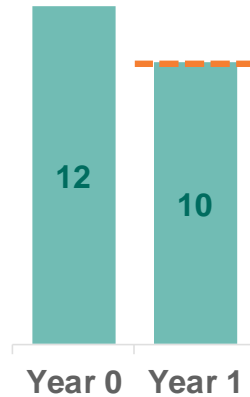
Entity D
Natural gas utility

How CPP Could Work



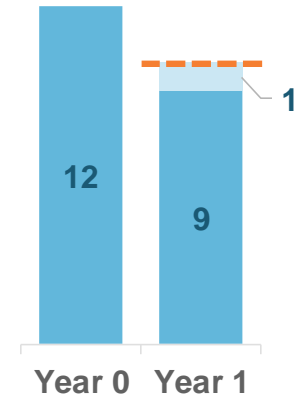
Entity A Stationary source

Reduces emissions by making changes to industrial processes



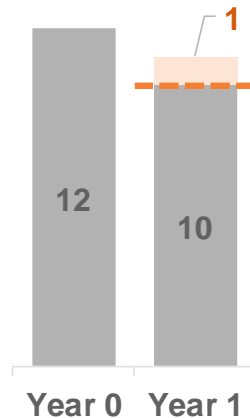
Entity B Transportation fuel supplier

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



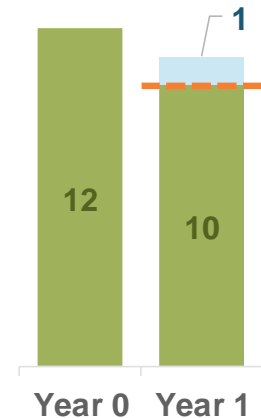
Entity C Transportation fuel supplier

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



Community Climate Investments

- Could support investments in environmental justice and impacted communities
 - Disproportionate pollution and health impacts
 - Expected to disproportionately bear climate change costs
- Could help contain costs for everyday users and consumers

EJ and impacted communities face more risks than others:



- ↑ Greater pollution exposure
- ↑ Greater impacts of climate change
- ↓ Less representation in public processes
- ↓ Less access to new, clean technologies

Environmental Justice and Impacted Communities

- EJ and impacted communities could play a role to:
 - Ensure a certain percentage of projects are in environmental justice and impacted communities
 - Ensure projects support environmental justice and impacted community goals
 - Recognize diversity of needs and goals among different communities
 - Include environmental justice and impacted communities in the process
 - Advisory committee could inform third party selection, projection selection, and project implementation tracking
 - Design methods so representatives from multiple communities could participate (i.e. regional design, active outreach)

RAC #3 Agenda

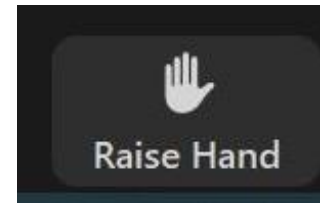
Time	Topic
9 a.m.	Welcome
9:15 a.m.	Meeting ground rules, procedures for public comment
9:30 a.m.	Remarks by Director Whitman
9:45 a.m.	Review work plan, updates from RAC#2
10:15 a.m.	Discussion of community climate investments (breakout sessions)
12 p.m.	Discussion of key elements for regulation of non-natural gas fuel suppliers
12:45 p.m.	Lunch
1:15 p.m.	Public Comment Period #1
1:45 p.m.	Modeling: initial policy scenarios emissions results and discussion
3 p.m.	Modeling: next steps
3:10 p.m.	Next Steps
3:15 p.m.	Public Comment Period #2

RAC #3 Agenda

Time	Topic
9 a.m.	Welcome
9:15 a.m.	Meeting ground rules, procedures for public comment
9:30 a.m.	Remarks by Director Whitman
9:45 a.m.	Review work plan, updates from RAC#2
10:15 a.m.	Discussion of community climate investments (breakout sessions)
12 p.m.	Discussion of key elements for regulation of non-natural gas fuel suppliers
12:45 p.m.	Lunch
1:15 p.m.	Public Comment Period #1
1:45 p.m.	Modeling: initial policy scenarios emissions results and discussion
3 p.m.	Modeling: next steps
3:10 p.m.	Next Steps
3:15 p.m.	Public Comment Period #2

Public Comment Period

- Public comment period: 1:15 – 1:45 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 by Mar. 26



RAC #3 Agenda

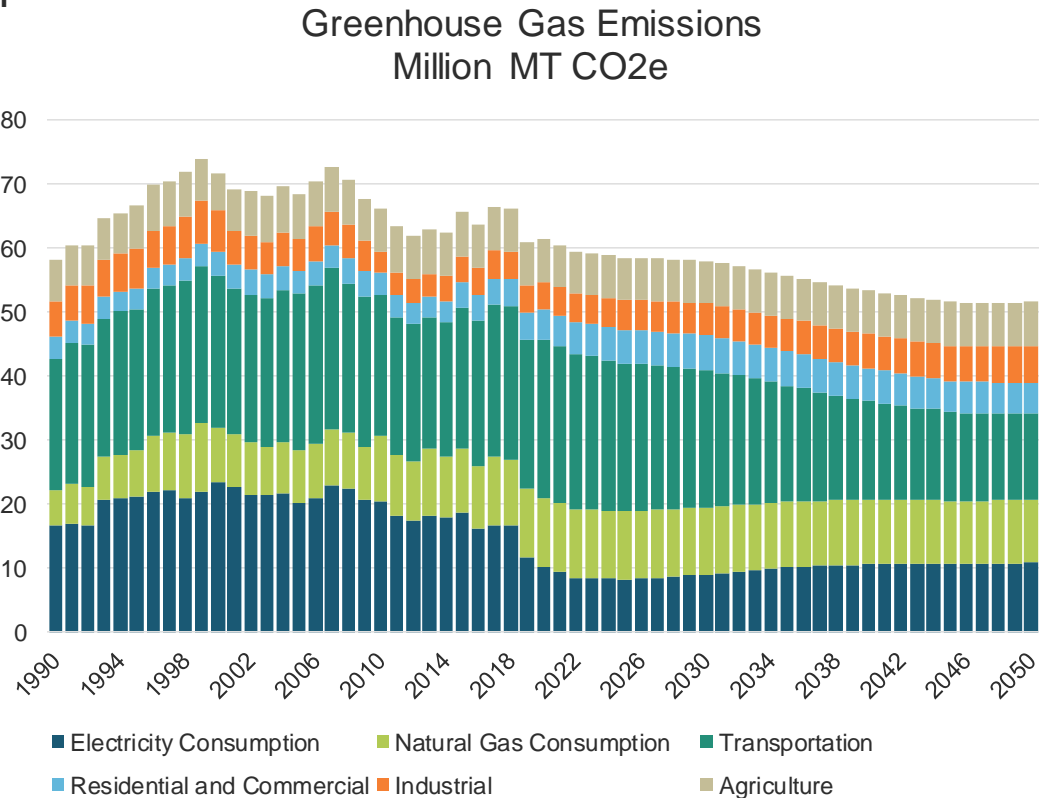
Time	Topic
9 a.m.	Welcome
9:15 a.m.	Meeting ground rules, procedures for public comment
9:30 a.m.	Remarks by Director Whitman
9:45 a.m.	Review work plan, updates from RAC#2
10:15 a.m.	Discussion of community climate investments (breakout sessions)
12 p.m.	Discussion of key elements for regulation of non-natural gas fuel suppliers
12:45 p.m.	Lunch
1:15 p.m.	Public Comment Period #1
1:45 p.m.	Modeling: initial policy scenarios emissions results and discussion
3 p.m.	Modeling: next steps
3:10 p.m.	Next Steps
3:15 p.m.	Public Comment Period #2

Modeling Program Options

- Reference Case for a baseline on the effects of current regulations
- Three initial modeling policy scenarios with varying program designs to compare to the reference case
 - Greenhouse gas emissions results at this RAC3
 - Economic, public health, and equity results for RAC4
- Do not represent final or complete program design proposals
 - Not able to represent all program details in modeling
- Focus is on difference and directionality, not absolute numbers

Reference Case: Updated Results

- Incorporated and aligned fuel use data from the OR GHG RP, EPA GHGRP, U.S. Dept. of Energy, and utility Integrated Resource Plans
- Updated transportation fuel projections to incorporate recent changes in line with Clean Fuels Program (CFP) electric vehicle modeling assumptions
- Updated power sector modeling to reflect CFP updates



Policy Scenario Common Assumptions

Assumptions the same in each scenario

Key Topic	3 Initial Policy Scenarios
Cap Application	One cap applied across all sectors <i>(regulated sectors and therefore scopes of regulated emissions vary by scenario)</i>
Banking Allowed?	Yes; unlimited through time
Alternative Compliance Options Allowed?	Yes, and annual supply is assumed to be available up to allowable percentage <i>(allowable percentage varies by scenario)</i>
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 Differing Assumptions

Key Topic	Policy Scenario 1	Policy Scenario 2	Policy Scenario 3
Cap and Trajectory	Straight line to 80% by 2050	45% by 2035 80% by 2050	50% by 2035 90% by 2050
Trading Allowed?	Yes	Yes, excluding stationary sources	Yes
Regulated Sectors	<ul style="list-style-type: none"> - Natural gas utilities - Non-natural gas fossil fuel suppliers - Large stationary sources with process emissions $\geq 25,000$ 	<ul style="list-style-type: none"> - Natural gas utilities - Non-natural gas fossil fuel suppliers - Large stationary sources with process emissions plus natural gas emissions $\geq 25,000$ 	<ul style="list-style-type: none"> - Natural gas utilities - Non-natural gas fuel suppliers with emissions $\geq 300,000$ - Large stationary sources with process emissions $\geq 25,000$
Sector Exclusions	<ul style="list-style-type: none"> - All natural gas supplied by interstate pipeline companies - Fuels used for aviation - Landfills; Electric Generators; stationary source process emissions below threshold 	<ul style="list-style-type: none"> - Natural gas supplied by interstate pipeline companies that is not regulated at stationary sources - Fuels used for aviation - Landfills; Electric Generators; stationary source process emissions below threshold 	<ul style="list-style-type: none"> - All natural gas supplied by interstate pipeline companies - Fuels used for aviation; emissions from fuel suppliers below threshold - Landfills; Electric Generators; stationary source process emissions below threshold

Policy Scenario Differing Assumptions

Key Topic	Policy Scenario 1	Policy Scenario 2	Policy Scenario 3
Natural Gas Point of Regulation	<p>All natural gas regulated at utility, not at stationary source.</p> <p>Stationary sources are only regulated directly for process emissions above threshold.</p>	<p>Regulated at stationary sources if emissions are above threshold. Natural gas used at smaller stationary sources is regulated at utility supplier.</p> <p>Emissions from other uses such as at homes and commercial buildings is regulated at utility supplier.</p>	<p>All natural gas regulated at utility, not at stationary source.</p> <p>Stationary sources are only regulated directly for process emissions above threshold.</p>
Allowable Use of Alternative Compliance	Up to 25% of compliance obligation per year	Up to 5% of compliance obligation per year	Up to 25% of compliance obligation per year

Additional Policy Scenarios Assumptions

- Technical potential emissions reductions and costs per ton rely on a variety of resources
- Modeled major drivers for reductions, including:
 - Energy efficiency
 - Fuel switching/electrification
 - Destruction, removal, or recovery of industrial process emissions
 - Renewable natural gas
- Caps begin in 2022
- CCI price of \$200 per metric ton (2020 dollars)

Key Resources

- Natural gas utility IRPs
- Energy Trust of Oregon
- NREL Electrification Futures Study
- Oregon-specific data (population, number of homes, commercial square footage, OR GHG RP data)
- Cal ETC Comparison of Medium- and Heavy-duty Technologies in California
- U.S. EPA Global Non-CO₂ Greenhouse Gas Emission Projections & Mitigation Potential: 2015-2050
- U.S. DOE State Energy Database and Annual Energy Outlook
- McKinsey & Company abatement cost curve analyses for industrial processes (e.g., cement and iron and steel production)

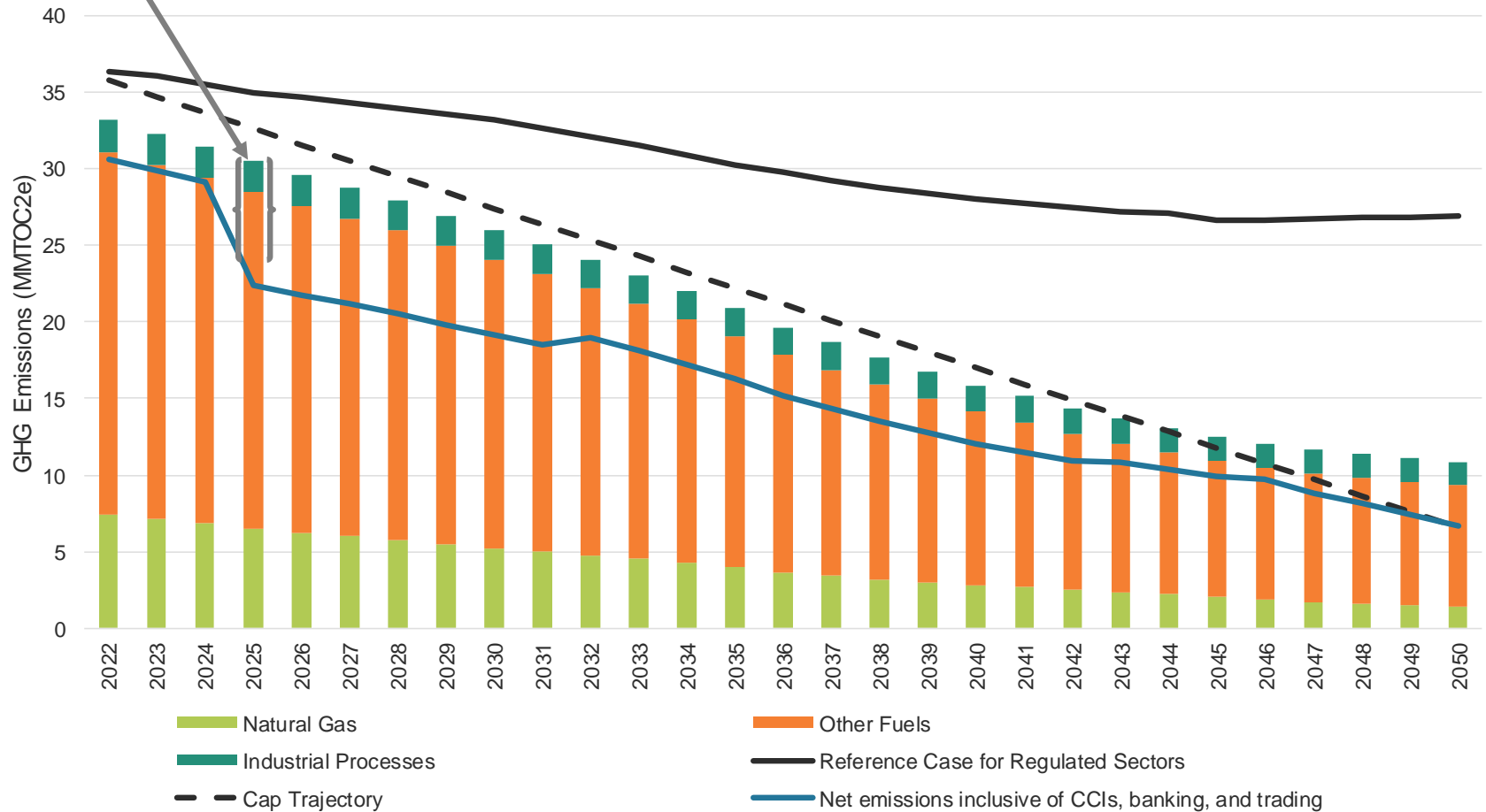
Understanding Results in Context

- Modeling assumes that the regulated entities have sufficient knowledge to make optimal decisions in the future
 - E.g., Banking versus trading
- There is inherent uncertainty in future technologies and costs that could influence actual program outcomes
- Key takeaways relate to relative differences and directionality

Policy Scenario 1 Results

Note: CCIs and banked instruments

Policy Scenario 1



Policy Scenario 1 Results

Assumptions

- Trajectory: 80% reduction by 2050
- CCIs allowable up to 25% per year

Compliance

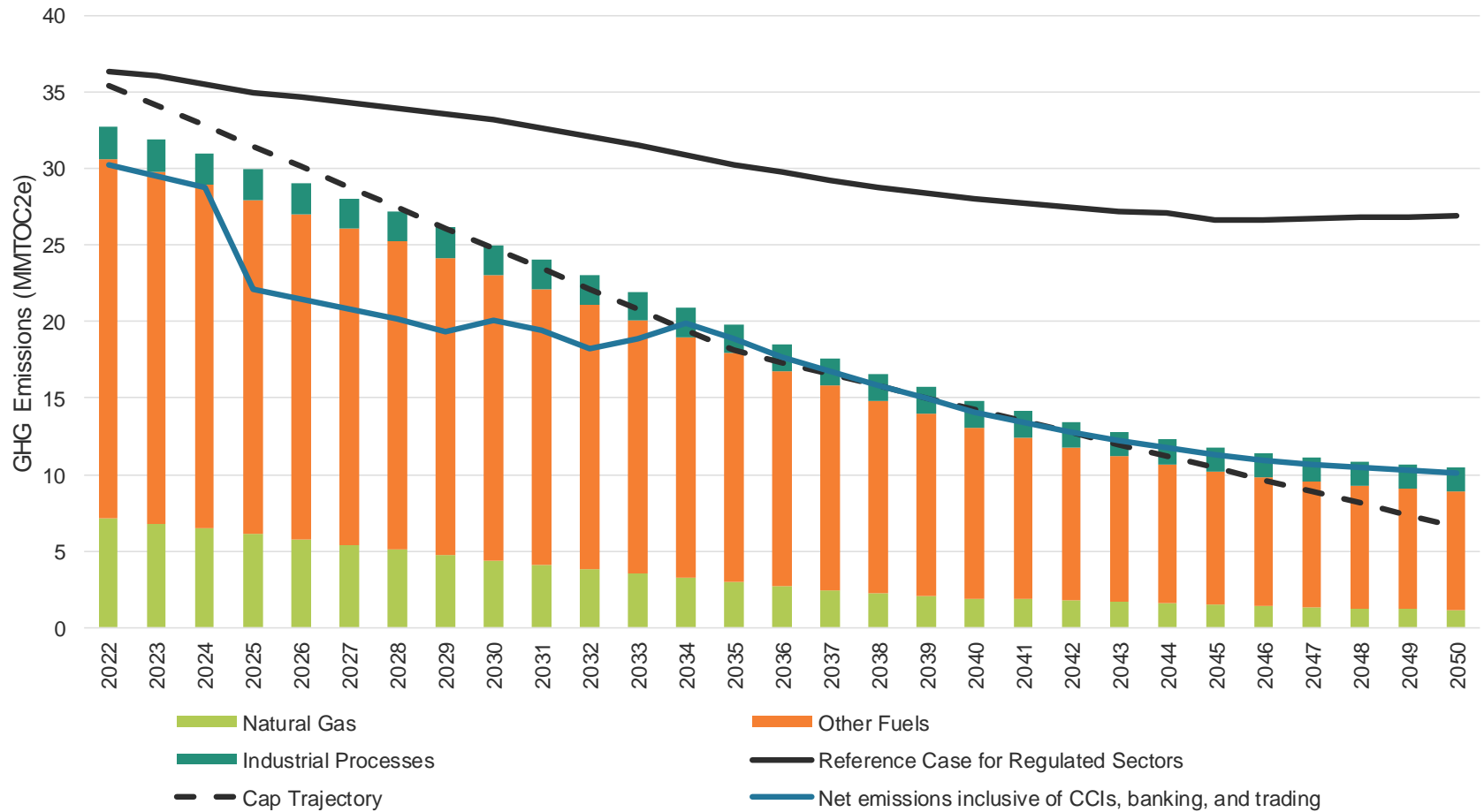
- Cap is met in all years
- CCIs and banking make it possible to achieve the cap, particularly in later years
- Trading does not appear to have a significant impact

Emissions

- 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
- Though a smaller source of regulated emissions, reductions in industrial process emissions requires achieving technical potential

Policy Scenario 2 Results

Policy Scenario 2



Policy Scenario 2 Results

Assumptions

- Trajectory: 45% reduction by 2035 and 80% reduction by 2050
- CCIs allowable up to 5% per year
- Greatest quantity of regulated emissions due to threshold for industrial facilities of combined process and natural gas

Compliance

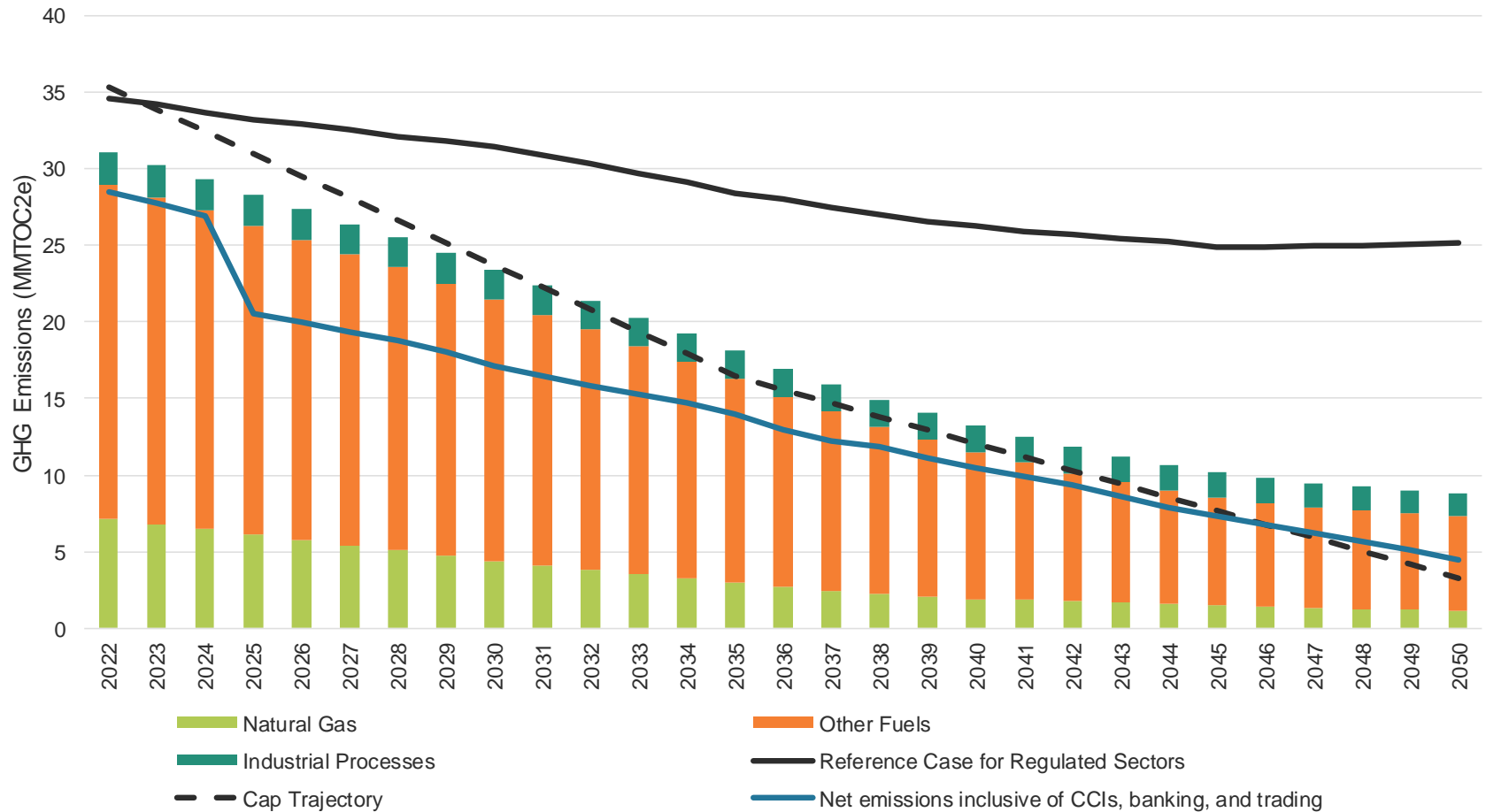
- Cap is met mostly in 2022-2041; net emissions above cap 2034-2037 and 2042-2050
- Maximum allowable CCIs used in most years
- Less availability of banked compliance instruments (compared to Scenario 1)
- Net emissions above caps driven by combination of interim cap target, limit on use of CCIs, and largest quantity of regulated emissions

Emissions

- More extensive residential and commercial electrification driving reductions
- Increased reductions from energy efficiency for non-natural gas fuels
- Approaching maximum technical potential for RNG as replacement for natural gas

Policy Scenario 3 Results

Policy Scenario 3



Policy Scenario 3 Results

Assumptions

- Trajectory: 50% reduction by 2035 and 90% reduction by 2050
- CCIs allowable up to 25% per year
- Least quantity of regulated emissions due to threshold for non-natural gas fuel suppliers

Compliance

- Cap is met 2022-2046, net emissions above cap 2047-2050
- Maximum allowable CCIs used in most years
- Net emissions above cap in later period driven by combination of interim target, lower caps, and reduced banking
- Available CCIs supports achievement of cap into later years and closer to 2050

Emissions

- Similar reductions (compared to Scenario 2) from electrification, RNG, energy efficiency, and industrial processes

Key Considerations (1/2)

- Reductions in other fuels are driven by the transportation sector, energy efficiency, and some electrification
 - Expanded CFP is achieved
 - Significant electrification and use of bio and renewable diesel for medium and heavy-duty trucks
- Reductions in natural gas emissions are driven by energy efficiency, electrification, and renewable natural gas (RNG)
 - RNG use goes beyond SB 98 assumptions
 - Impacted the overall reductions across sectors in all scenarios
 - Increased electrification does increase emissions in electricity, though state-wide emissions reductions still achieved due to the program
- All emissions reductions are critical, including industrial process emissions

Key Considerations (2/2)

- Banking used in all scenarios to meet caps
- CCIs played an important role in meeting steeper caps
 - Limits on CCIs made achieving some targets difficult
 - Scenario 2
 - In some instances, CCIs are more cost effective than reducing emissions within a regulated sector over a range of CCI prices
 - i.e. \$50 per metric ton to \$200 per metric ton
- Trading and point of regulation did not play significant roles

Proposed Next Steps for Study

- April 22nd RAC
 - Review initial 3 policy scenario results:
 - Economic
 - Sector-specific job impacts, gross state product, etc.
 - Health
 - Health impacts due to changes in co-pollutants
 - Incidence and avoided costs metrics like avoided hospital visits, reduction in mortality risk, etc.
 - Co-benefits and equity
 - Assessment of potential co-benefits and how those benefits or consequences are distributed impacts
 - Development of 4th policy scenario
- Final results planned for May and June RAC meetings

Questions and Discussion

- ICF available today to answer questions

RAC #3 Agenda

Time	Topic
9 a.m.	Welcome
9:15 a.m.	Meeting ground rules, procedures for public comment
9:30 a.m.	Remarks by Director Whitman
9:45 a.m.	Review work plan, updates from RAC#2
10:15 a.m.	Discussion of community climate investments (breakout sessions)
12 p.m.	Discussion of key elements for regulation of non-natural gas fuel suppliers
12:45 p.m.	Lunch
1:15 p.m.	Public Comment Period #1
1:45 p.m.	Modeling: initial policy scenarios emissions results and discussion
3 p.m.	Modeling: next steps
3:10 p.m.	Next Steps
3:15 p.m.	Public Comment Period #2

Next Steps: Written Comments

- DEQ accepting written comment on today's discussion items
- Discussion questions also available on rulemaking website
- Please submit comments by end of day **Mar. 26, 2021** to GHGCR2021@deq.state.or.us
- Next rulemaking advisory committee meeting (#4)
 - **Apr. 22, 2021, 9 a.m. to 4:30 p.m. PT**

RAC Meeting Resources

Sign up for meeting notifications:

https://public.govdelivery.com/accounts/ORDEQ/subscriber/new?topic_id=ORDEQ_655

Rulemaking webpage:

www.oregon.gov/deq/Regulations/rulemaking/Pages/rghgcr2021.aspx

Rulemaking contact:

GHGCR2021@deq.state.or.us

Modeling study webpage:

www.oregon.gov/deq/ghgp/Pages/modelingstudy.aspx

RAC #3 Agenda

Time	Topic
9 a.m.	Welcome
9:15 a.m.	Meeting ground rules, procedures for public comment
9:30 a.m.	Remarks by Director Whitman
9:45 a.m.	Review work plan, updates from RAC#2
10:15 a.m.	Discussion of community climate investments (breakout sessions)
12 p.m.	Discussion of key elements for regulation of non-natural gas fuel suppliers
12:45 p.m.	Lunch
1:15 p.m.	Public Comment Period #1
1:45 p.m.	Modeling: initial policy scenarios emissions results and discussion
3 p.m.	Modeling: next steps
3:10 p.m.	Next Steps
3:15 p.m.	Public Comment Period #2

Public Comment Period

- Public comment period: 3:15 – 3:45 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
- Public participants who have not already commented will be given priority.
- Members of the public welcome to provide written input to GHGCR2021@deq.state.or.us by Mar. 26



raise hand