Office of GHG Programs:
Climate Protection Program Update

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Environmental Quality Commission
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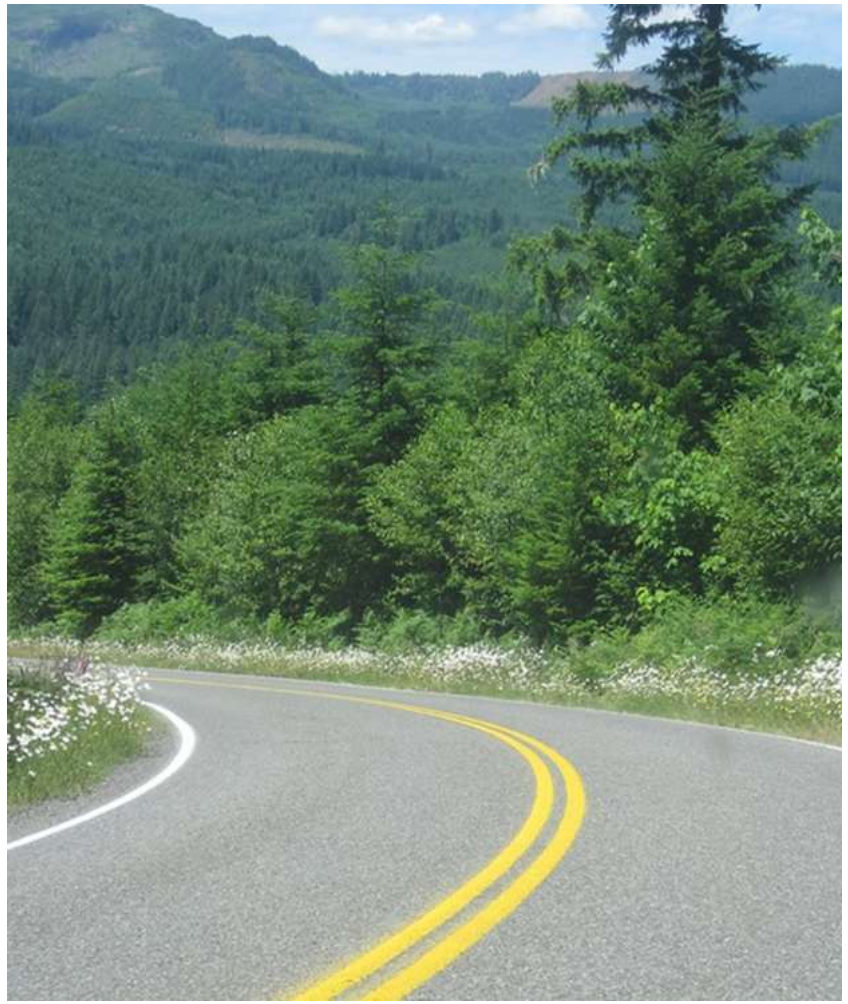
Climate Protection Program (CPP)

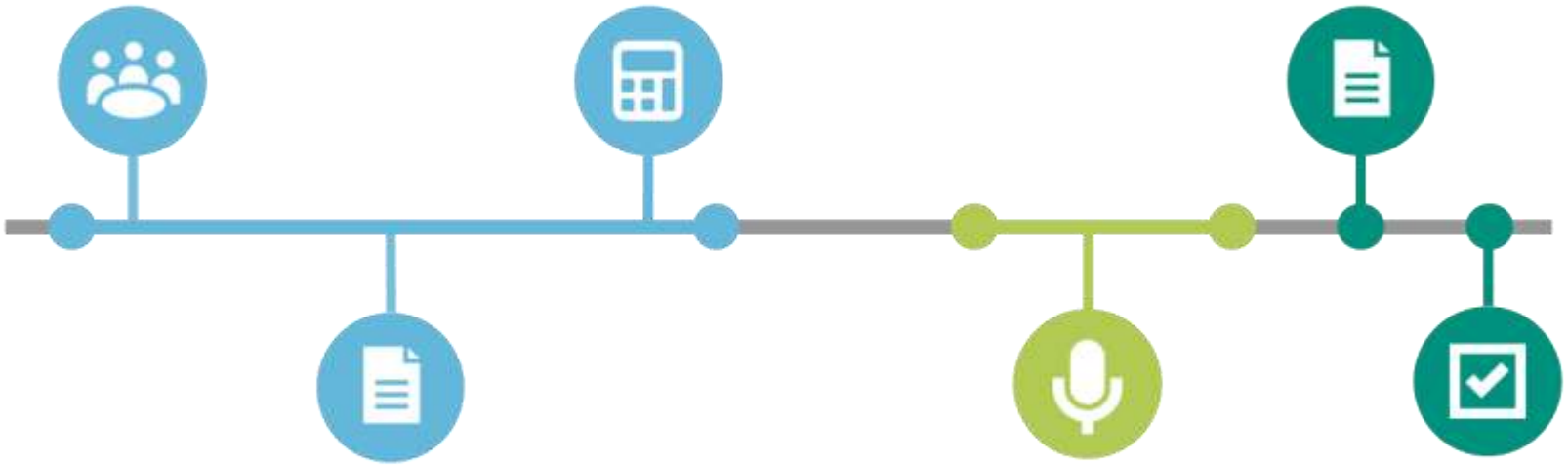
- Establish limits on GHG emissions from fossil fuels in Oregon
  - Enforceable
  - Declining
- Reduces emissions from:
  - Fuel used for transportation
    - Largest source of emissions
  - Other fossil fuel including
    - Natural gas
    - Diesel in non-road uses
    - Propane

CPP Presentation Agenda

- Timeline
- Key program design issues
- CPP framework
  - Natural gas and non natural gas fuel suppliers
  - Stationary sources
  - Cost containment measures
  - Community Climate Investments
- Modeling study
- Next steps



CPP Rulemaking Timeline



Winter 2021

RAC: Convening, policy proposals, and initial modeling results.

Spring 2021

RAC: Draft rules, policy proposals, and modeling results.

Summer 2021

RAC: Final modeling results, fiscal impacts, and draft rules.

Aug. to Oct. 2021

Public notice and open comment period. DEQ to host public hearings in September.

Nov. 2021

DEQ submits staff report and proposed rules to EQC.

Dec. 2021

EQC meeting to consider proposed rules

Key Program Design Issues

- Emission reduction targets/emission limits
- Point of regulation, applicability, threshold
  - Determining the regulated entities
- Distribution of compliance instruments
- Cost containment and equity measures
  - Community climate investments (CCIs)
  - Focused investments in impacted communities
- Informed by RAC discussions and public comment

Equity Considerations

EJ and impacted communities face more risks

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

Promote processes that support meaningful engagement and equitable outcomes

Support communities least able to transition to clean energy

Reduce co-pollutants from fuels improving health, health and equity assessment

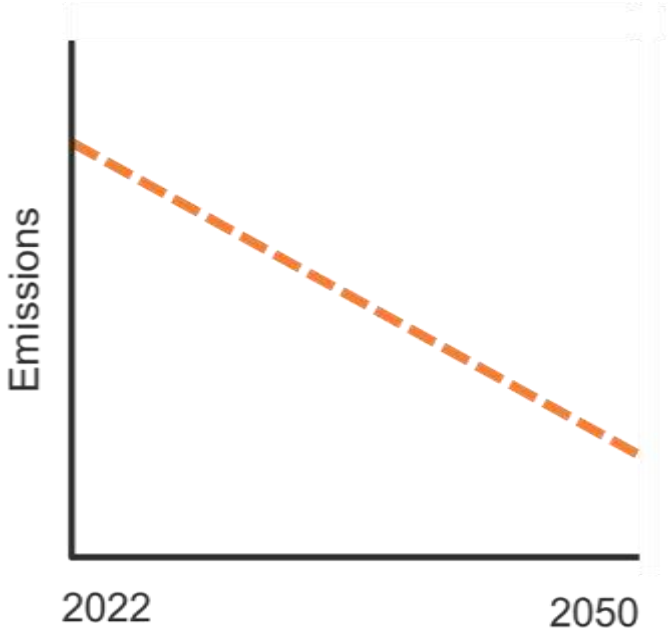
Supporting Meaningful Engagement

Engaging EJ and other under-resourced communities:

- Resources to enable RAC participation
- Resources to support these organizations ongoing community capacity building activities
- Creating spaces reserved for EJ dialogue
- Supporting a Unite Oregon & MultiCultural Collaborative project on climate change and climate justice

How CPP Could Work: **Fuel Suppliers & Natural Gas**

Every year, the emissions limit will decline toward a target.



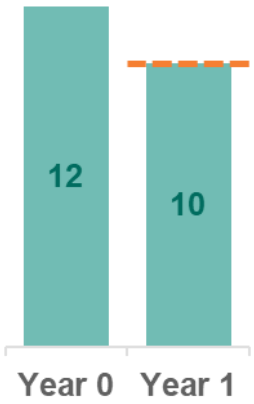
Illustrative Example:

- DEQ has 40 compliance instruments to distribute to four regulated entities
- Each entity receives 10 compliance instruments from DEQ
- All emitted 12 metric tons last year
- Each needs to reduce their emissions

How CPP Could Work: **Fuel Suppliers & Natural Gas**

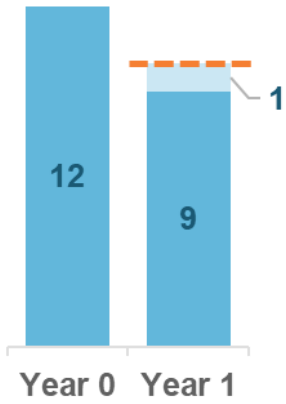
Entity A
Natural gas utility

Reduces emissions by using more renewable natural gas



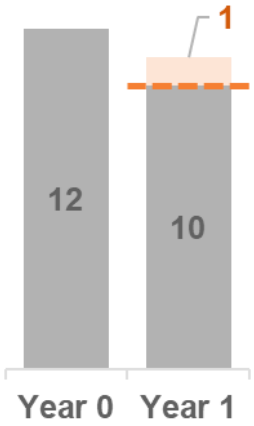
Entity B
Transportation fuel supplier

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



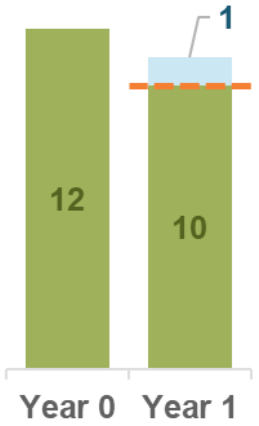
Entity C
Transportation fuel supplier

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



CPP Potentially Regulated Entities

- Natural gas
  - Three gas utilities supply nearly all end users in Oregon
- Non natural gas fuels
  - Emissions from liquid fuels and propane
  - Regulating fuel suppliers first importing in OR
  - Depending on design anywhere between six to eighty entities

2019 Fuel Supplier Emissions Share

Threshold MT CO_2e	Share of Fuel Sector Emissions	Count of Suppliers
5,000	99.8%	58
25,000	99%	38
300,000	86%	6

CPP Policy Discussions

- How much should the emissions cap decline over time? How should interim targets be used?
- How to address the dynamic nature of the fuel supplier sector?
  - What should be the threshold for inclusion?
  - How should that threshold be determined?
- How to determine how many compliance instruments each entity receives?

BREAK FOR QUESTIONS

How CPP Could Work: **Stationary Sources**

- Best available emissions reduction assessment
- Site-specific, direct regulation, no compliance instruments
- Different industries, manufacturing processes, emissions reduction technologies
- Approximately 10-15 sources responsible for less than 2 million emissions

Best technology, operations, practices to reduce emissions

Potentially applied to:

- Industrial process emissions
- Solid fuels combustion emissions
- Natural gas from interstate pipelines

- DEQ could
  - Collaborate with experts, community members, consultants
  - Consider potential relationships between GHG emission reductions and other air pollutants

How CPP Could Work: **Stationary Sources**

- Allows for collaboration across DEQ's air pollution programs
    - Cleaner Air Oregon, Regional Haze

- Source specific analysis of potential interactions among the different GHG emissions and air pollution programs and reduction technologies

Site-specific considerations

How CPP Could Work: **Stationary Sources**

- Facilities
  - Provide information to DEQ and offer assessments of available technologies and practices to reduce emissions

- DEQ
  - Review the provided information
  - Conduct or contract for assessment of available technologies/practices
  - Determine requirements
  - Notify sources of what they need to do to reduce emissions

CPP Policy Discussions

- Benefits and challenges of using the different approach for stationary sources?
- What factors should be considered and evaluated as part of the best available emissions reduction assessment?

Cost Containment Elements

- Banking
  - Regulated entities who don't use all of their compliance instruments could hold them to use in future years
- Trading
  - Regulated entities could buy or sell unused compliance instruments
- Multi-year Compliance Period
  - Longer timeframes more time for businesses to develop compliance strategies
  - Less disruption from volatility of external factors such as weather

Community Climate Investments (CCI)

- Optional alternative compliance option for CPP
- Reduce GHG emissions
- Direct investments in Oregon's impacted communities
  - Promote an equitable energy transition
  - Reduce co-pollutants & improve community health

Community Climate Investments

- Communities central to project selection
  - Projects in Oregon
  - Prioritize projects in environmental justice and impacted communities
- Could certify one or more third parties
- DEQ would establish a price for each credit
  - Promote equitable program benefits
  - Considering basing price on EPA Social Cost of Carbon
  - CCIs limited by allowable use, not availability of projects

Social Cost of CO_2
$2020 per metric ton

Year	2.5% Average
2020	$76
2025	$83
2030	$89
2035	$96
2040	$103
2045	$110
2050	$116

CPP Policy Discussions

- Limitations on banking or trading?
- How long should a compliance period be?
- Limitations on how many CCIs entities could use?
- What types of projects should be funded by CCIs?
- How would third-parties be certified?
- How should the CCI price be established?
- How to ensure and prioritize investments in EJ and other impacted communities?

BREAK FOR QUESTIONS

Modeling Study

- Contracted modeling study
  - GHG emissions
  - Health benefits
  - Macroeconomic metrics
  - Co-benefits and equity assessment

- Three initial modeling policy scenarios
  - Scenarios are compared against a reference case (projected world without CPP)
  - Inform CPP development
  - Don’t represent all options for CPP or program proposals

Selected Modeling Scenarios Assumptions

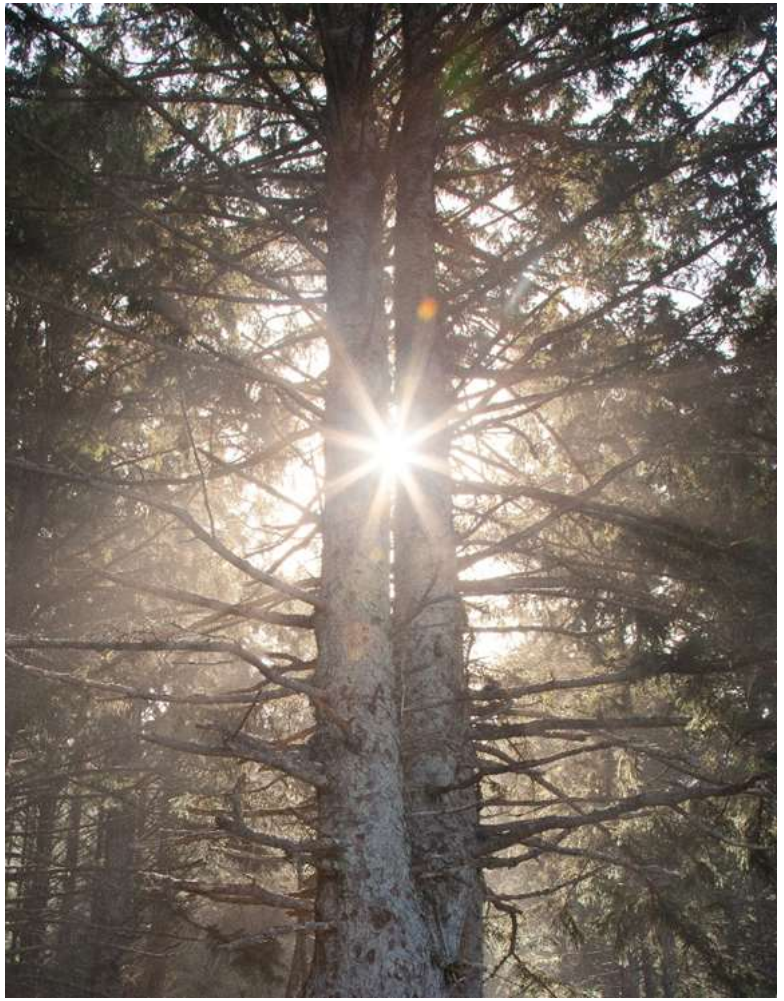
- Differences in targets, regulated entities, CCIs

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
Allowable use of CCI per year	Up to 25% of compliance	Up to 5% of compliance	Up to 25% of compliance
Regulated sectors	- Natural gas utilities - Non-natural gas fossil fuel suppliers - Large stationary sources with process emissions ≥ 25,000	- Natural gas utilities - Non-natural gas fossil fuel suppliers - Large stationary sources with process emissions plus natural gas emissions ≥ 25,000 (natural gas regulated at source)	- Natural gas utilities - Non-natural gas fuel suppliers with emissions ≥ 300,000 - Large stationary sources with process emissions ≥ 25,000
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		

Co-Benefits and Equity Assessment

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

- Five indicators
  - Local air quality
  - Ecosystem health & resilience
  - Energy security
  - Employment & workforce development
  - Housing burden



Modeling: Initial Results Summary

- Dramatically reduce GHG emissions while maintaining overall health of economy
- Improve public health by reducing emissions and support equity
- All three 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 and income over time while small overall job impacts are less than 1% of baseline jobs
  - Increased co-benefits and benefits for identified communities of concern
    - Urban low-income households and communities of color experience the most benefits

Modeling: Initial Results Summary

- Emissions reductions are driven by transportation sector emission reductions
- Other reductions achieved with building energy efficiency, electrification, and renewable natural gas
- Significant investments in clean transportation, followed by investments in energy efficiency, and electrification
  - Positive economic impacts are associated with clean energy investments and increasing bill savings over time
  - Negative economic impacts from losses in fossil fuel sector
- CCIs and cost containment measures play an important role in achieving reductions
  - Banking used in all scenarios
  - CCIs used to almost fullest extent

Modeling: Initial Results Summary

- Difference among the scenarios:
  - Scenario 2 had the greatest public health benefits
  - Emissions (inclusive of CCIs, banking, and trading) may still be above the cap in the scenarios
    - Occurs near the end of the modeling time horizon in Scenario 1&3
    - Occurs more frequently in Scenario 2
    - Available technologies and costs likely to change and decline in the future
  - Equity benefits are slightly higher in scenarios 1&3
    - Emission reductions, CCIs and cost containment measures play an important role

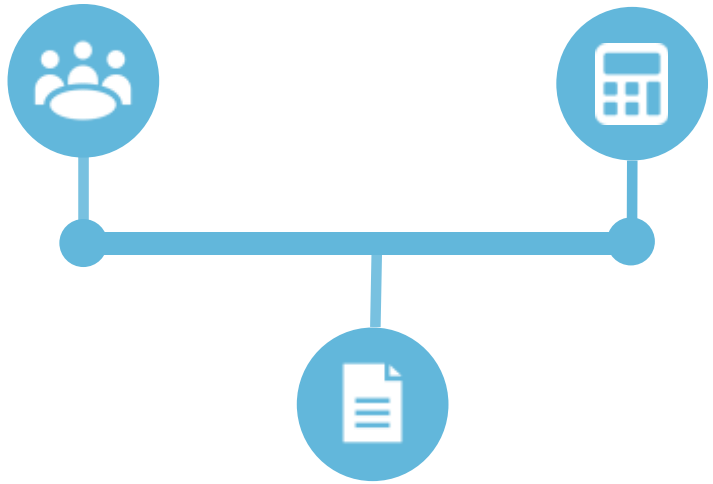
CPP Next Steps

May 25, 2021

RAC 5: Draft rules, program design discussions

July 8, 2021

RAC 7: Draft rule updates, fiscal impact statement



June 17, 2021

RAC 6: Draft rules, final modeling results review