



Oregon Department of Environmental Quality

Rulemaking Brief: Emissions Caps

Climate Protection Program 2024 Rulemaking

Introduction

The Climate Protection Program established a declining limit, or cap, on greenhouse gas emissions from fossil fuels used throughout Oregon, including in transportation, residential, commercial, and industrial settings. Entities subject to the declining emission caps included liquid fuels and propane suppliers and natural gas utilities.

CPP was designed to reduce these fuel suppliers' emissions fifty percent by 2035 and ninety percent by 2050 from the 2022 base cap. The base cap was established using a baseline computed from the average emissions from 2017-2019.

The intent of this CPP 2024 rulemaking is to re-establish a climate program with comparable scope and emissions reduction ambitions as the previously adopted Climate Protection Program.

Greenhouse gas emissions

Greenhouse gas emissions come from a wide variety of human activities such as generating power, heating buildings, manufacturing goods, producing food, or transportation. Common greenhouse gases include carbon dioxide, methane, nitrous oxide, and fluorinated gases. Since each of these greenhouse gases remains present in the atmosphere for different amounts of time and has a different warming intensity, the warming effect of the gases are standardized to the relative effect of emitting 1 metric ton of CO₂, over a 100-year period; this is referred to as CO₂ equivalent. For example, 1 MT of methane has a global warming potential 25 times higher than 1 MT of CO₂, or 25 MT CO₂e.

Anthropogenic greenhouse gas emissions are the result of human activities, mostly from the use of fossil fuels but also from manufacturing activities. Biogenic emissions are CO₂ emissions that result from the biomass carbon cycle of living organisms. Biomass derived fuels such as biomethaneⁱ and ethanol are non-fossilized and biodegradable organic material derived from feedstocks such as animal waste or crops. As required by the Greenhouse Gas Report Program (OAR 340, Division 215), a wide variety of sources such as air-permitted facilities, and various suppliers of energy (utilities, companies importing fuels) report both biogenic and anthropogenic greenhouse gas emissions.

The CPP only regulated anthropogenic greenhouse gas emissions. Emissions from biomass derived fuels were excluded from the CPP and replacing fossil fuels with biomass derived fuels was an important compliance strategy for regulated entities.

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Emissions caps

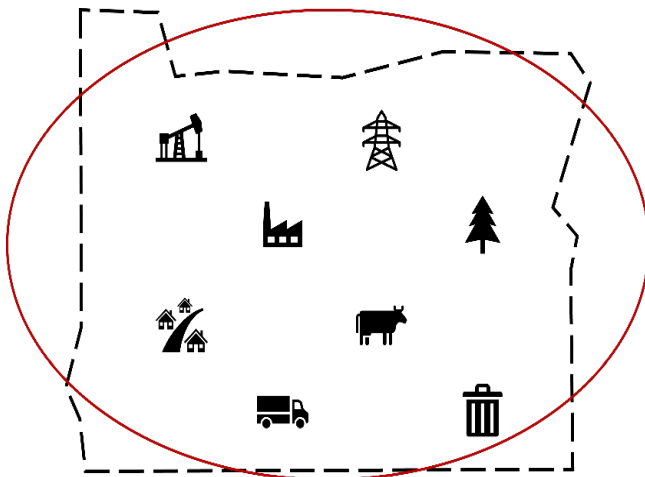
An emissions cap sets an enforceable, declining limit on emissions from sources covered under the cap. The amount of emission reductions that can be achieved by implementing an emissions cap are determined by three primary factors:

1. Cap coverage or emissions scope.
2. Cap baseline or base cap.
3. Cap reduction trajectory.

CPP cap coverage

An emissions cap can be designed to cover all or part of greenhouse gas emissions in Oregon. The scope of emissions covered under a cap is determined by the number of sectors covered by the cap (the emissions sources) and any applicability threshold within each covered sector. Programs with emission caps typically cover sectors that account for large portions of emissions within the jurisdiction and that have sufficient data to accurately quantify emissions. Capturing smaller and less defined emissions sources can introduce costs and uncertainties that outweigh the benefits of increased cap coverage. Some potential types of cap coverage are:

Statewide Emission Cap: Covering all emissions occurring within Oregon.



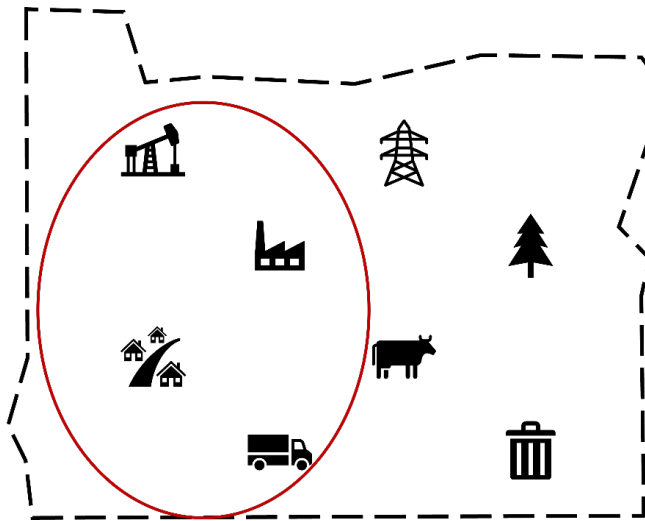
Advantages:

- Maximizes potential emission reductions.
- Allows for more market participants.
- Can help lower overall costs.
- Can serve as buffer against volatility or unforeseen circumstances in one sector.

Disadvantages:

- DEQ may not have reported emissions data from some sectors or sources, making it difficult to quantify emissions.
- May be other limitations that potentially negatively impact emission goals, for example legal limitations in regulating imported electricity.

Partial Emission Cap: Covering a selected subset of GHG emissions



Advantages:

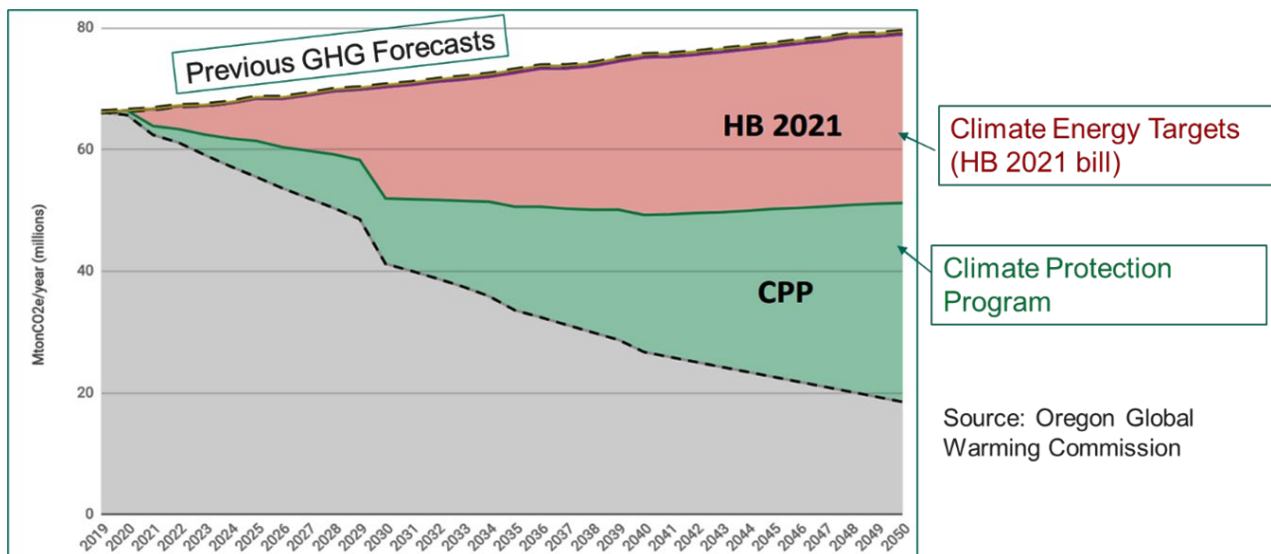
- Can take sector specific compliance options and costs into account.
- Allows for a focus on sectors with most significant and well quantified emissions.
- Can also focus on sectors that have historically reduced emissions more slowly.
- Individual sectors can be regulated by mechanisms other than a cap, where desired.

Disadvantages:

- Less potential reductions in emissions in sectors not covered by the cap.
- Smaller number of market participants
- Less options to reduce overall costs or adjust to volatility.

The CPP used a partial cap that regulated covered fuel suppliers, as well as a portion of rules establishing a non-cap regulatory approach for certain stationary sources. CPP was estimated to cover about half of Oregon's sector-based emission inventory and was projected to be one of the two most significant programs to meet the state's greenhouse gas emission reduction goals.

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CPP base cap

The CPP established a base cap using the average reported emissions data from 2017 – 2019. Though Oregon’s emission reduction goals use a 1990 baseline, DEQ decided that the emission cap should be based on emission data reported to the GHG Reporting Program as this data is more granular and accurate than the broader sectoral estimates used previously, allows for more precise calculations, and was the data that would be used to determine compliance obligations and the distribution of compliance instruments. Those 3 years were the most recent emission data at the time, not including 2020 which was discarded as a potential outlier year.

CPP cap trajectory

The downward trajectory of an emissions cap is dependent on the final target cap level and any intermediate targets. An emissions cap with a single emissions reduction target will see a consistent annual decrease in the cap each year. One or more intermediate emission reduction targets can be set for interim targets along the path to the final emissions cap level. Intermediate targets can be used to increase or decrease the rate of required emissions reductions during certain years of the program. More rapid emission reductions can be used to maximize environmental benefits by incentivizing earlier emissions reductions, while slower emission reductions might be selected to allow regulated entities time to adjust to the program or implement emerging technologies.

CPP adopted a 50% emissions reduction by 2035 and a 90% emissions reduction by 2050 from the 2022 base cap. That interim reduction target was designed to reduce emissions sooner during the first half of the program.

CPP 2024 cap considerations and discussion questions

In re-establishing an emissions cap program for 2025:

- DEQ could use the annual emissions caps as they appear in the invalidated CPP rules starting with the 2025 cap of 25,763,209 tons (Figure 1).
- Mirroring those prior rules would entail regulating all fuel suppliers above a 100,000 MT CO₂e threshold.
- Should DEQ consider adjusting the 2017-2019 emissions baseline that informed the initial cap?
- If DEQ were to start with the 2025 cap, should DEQ consider evaluating whether any compliance instruments would have been banked from the first 3 years of the program if the initial CPP had not been invalidated?
- Should DEQ consider redistributing or adding these potentially banked instruments to the emissions caps for the new climate mitigation program? If so, on what basis should those instruments be distributed? Are there other methods DEQ should consider for rewarding or incentivizing fuel suppliers that have been reducing emissions faster since 2022?
- Should DEQ consider starting with the 2022 base cap, while keeping the intermediate targets to reach the same absolute emission caps in 2035 and 2050 (Figure 2)?
- Any other considerations in establishing emissions reduction caps starting in 2025?

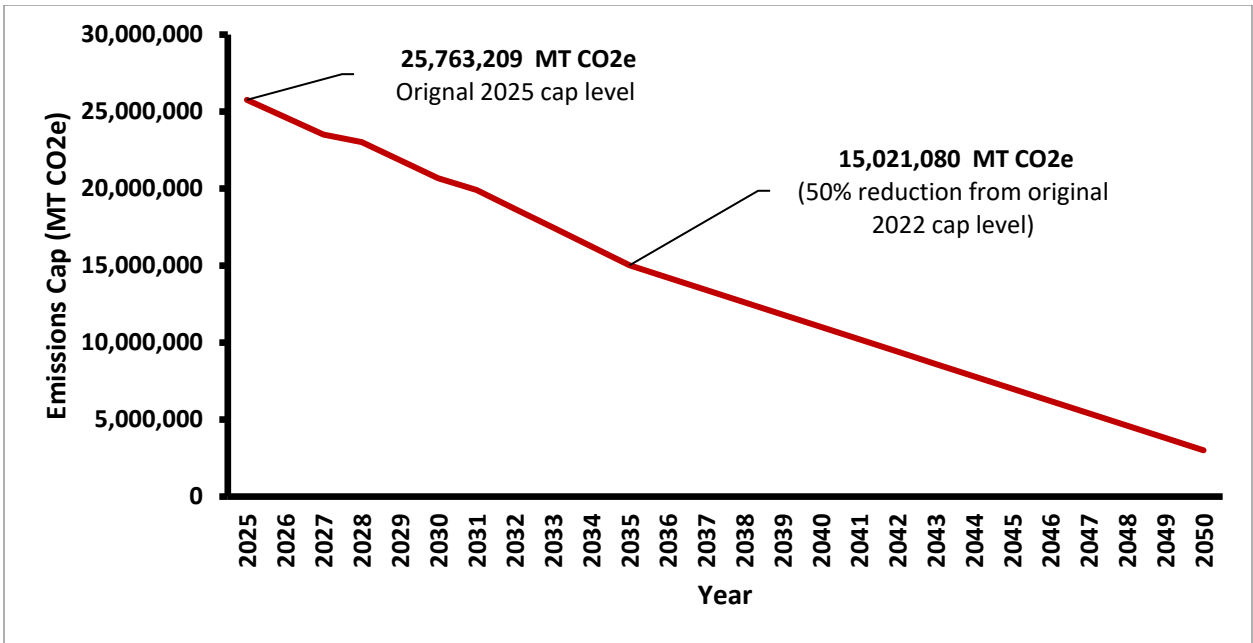


Figure 1. Cap trajectory using original CPP cap for 2025 and all subsequent years.

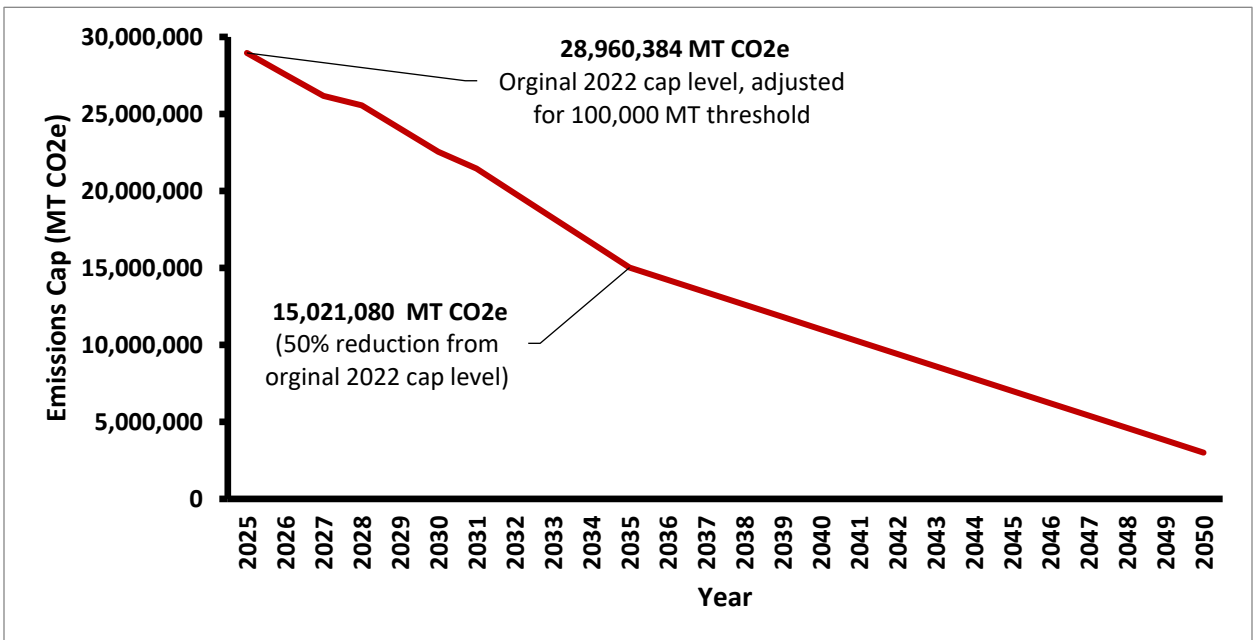


Figure 2. Cap trajectory using original CPP cap for 2022, adjusted to account for 100,000 MT CO2e threshold for fuel suppliers. 2035 target of 50% reduction from 2022 cap remains the same.

More information

Please visit the [Climate 2024 Rulemaking website](#) for more information on this rulemaking. Additional information is also available on the [CPP 2021 Rulemaking](#) and the [Climate Protection Program website](#).

Non-discrimination statement

DEQ does not discriminate on the basis of race, color, national origin, disability, age or sex in administration of its programs or activities. Visit DEQ's [Civil Rights and Environmental Justice page](#).

ⁱ For the Climate 2023 rulemaking which EQC adopted in December 2023, DEQ clarified the reporting of biomethane the Greenhouse Gas Reporting Program (OAR 340, Division 215). The primary purposes of these updates were to: consistently identify, document, and verify emissions from biomass fuels and account for biomethane injected into the natural gas pipeline network in and connected to Oregon.