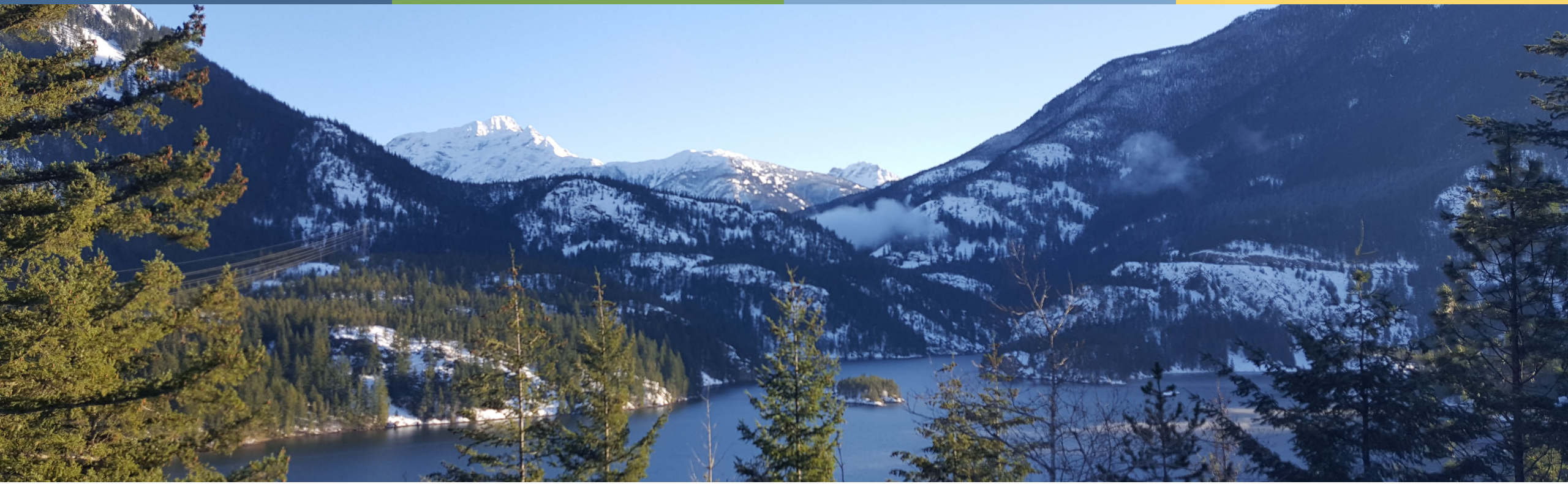


DEPARTMENT OF ECOLOGY
State of Washington

EITE Industries Advisory Group

Meeting 4: December 19, 2024

Introductions

Ecology staff

- Jihan Grettenberger – Facilitator
- Adrian Young – Cap-and-Invest Industrial Policy Lead
- Adam Eitmann – Director of Government Relations
- David Hampton – GHG Emissions Reporting Engineering Specialist

Meeting reminders

- Meetings are open to the public and recorded
- Advisory Group members will appear as “Panelists”
- Members of the public will appear as “Attendees”
- Attendees may unmute and provide comment in the public comment portion of the meeting
- Meeting materials and summary notes will be published on the Advisory Group webpage

Purpose of EITE Industries Advisory Group (IAG)

- Composed of 23 members representing EITE Industries within Cap-and-Invest Program
- Provide input on a report to the Legislature related to the allocation of no-cost allowances to EITEs from 2035 to 2050.
- Ecology will use input to inform its report to the legislature, in tandem with input from other interested parties.
- Further information available on Ecology's website.

Timeline: report and advisory groups

Phase 1:
Aug–Dec 2024

Collect information, discuss technical issues, and identify factors affecting EITE allocation & decarbonization

- EITE Industries AG
  - EITE Industry & Facility perspective
- EITE Policy AG
  - Program & Statewide perspective

Break

Phase 2:
Mar–Aug 2025

Discuss and assess policy and technical considerations

Discuss draft policy recommendations for EITE allocation 2035-2050

- EITE Industries AG
- EITE Policy AG

Phase 3:
Sep–Nov 2025

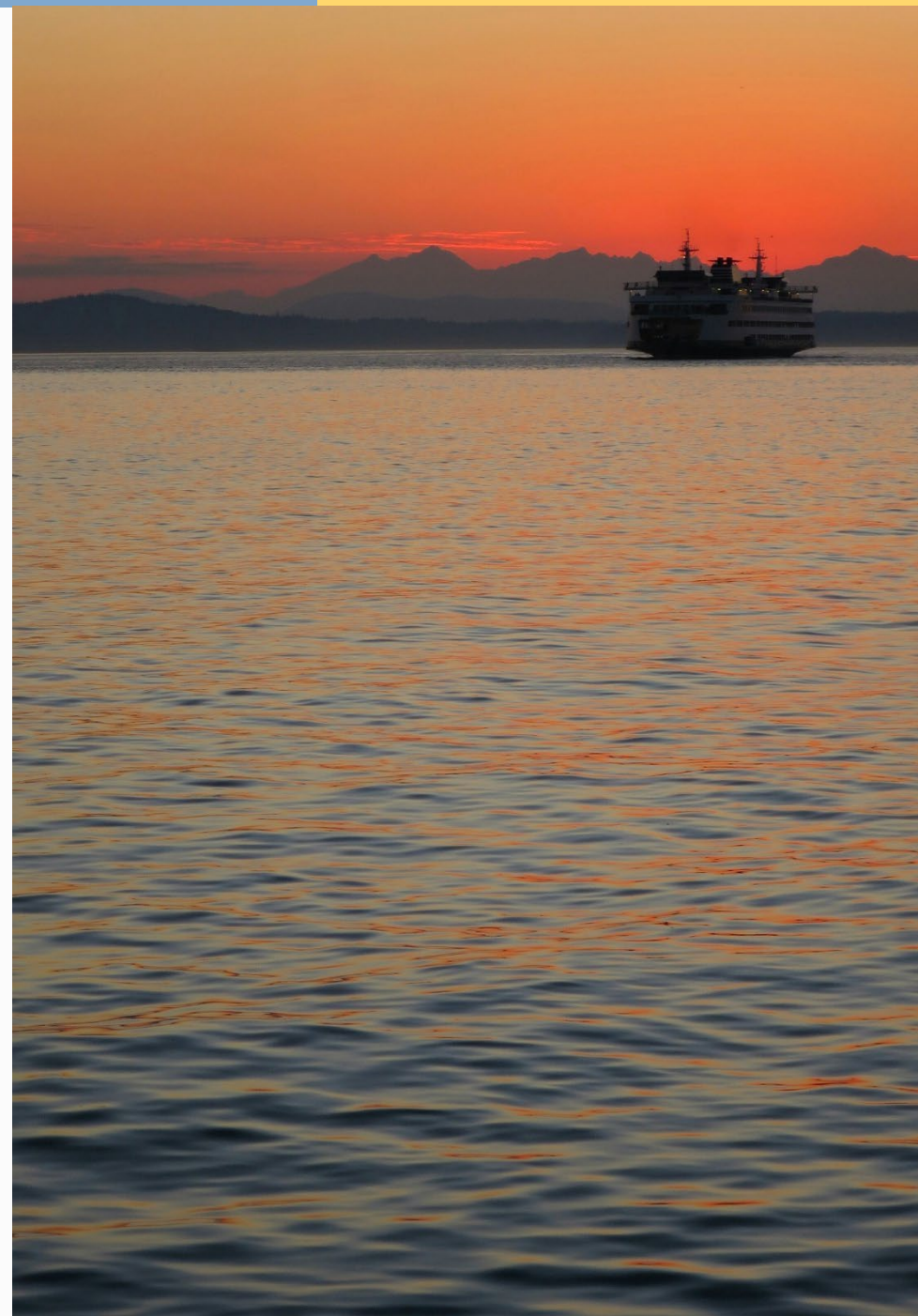
Ecology prepares final report for legislature

Report submitted to legislative committees

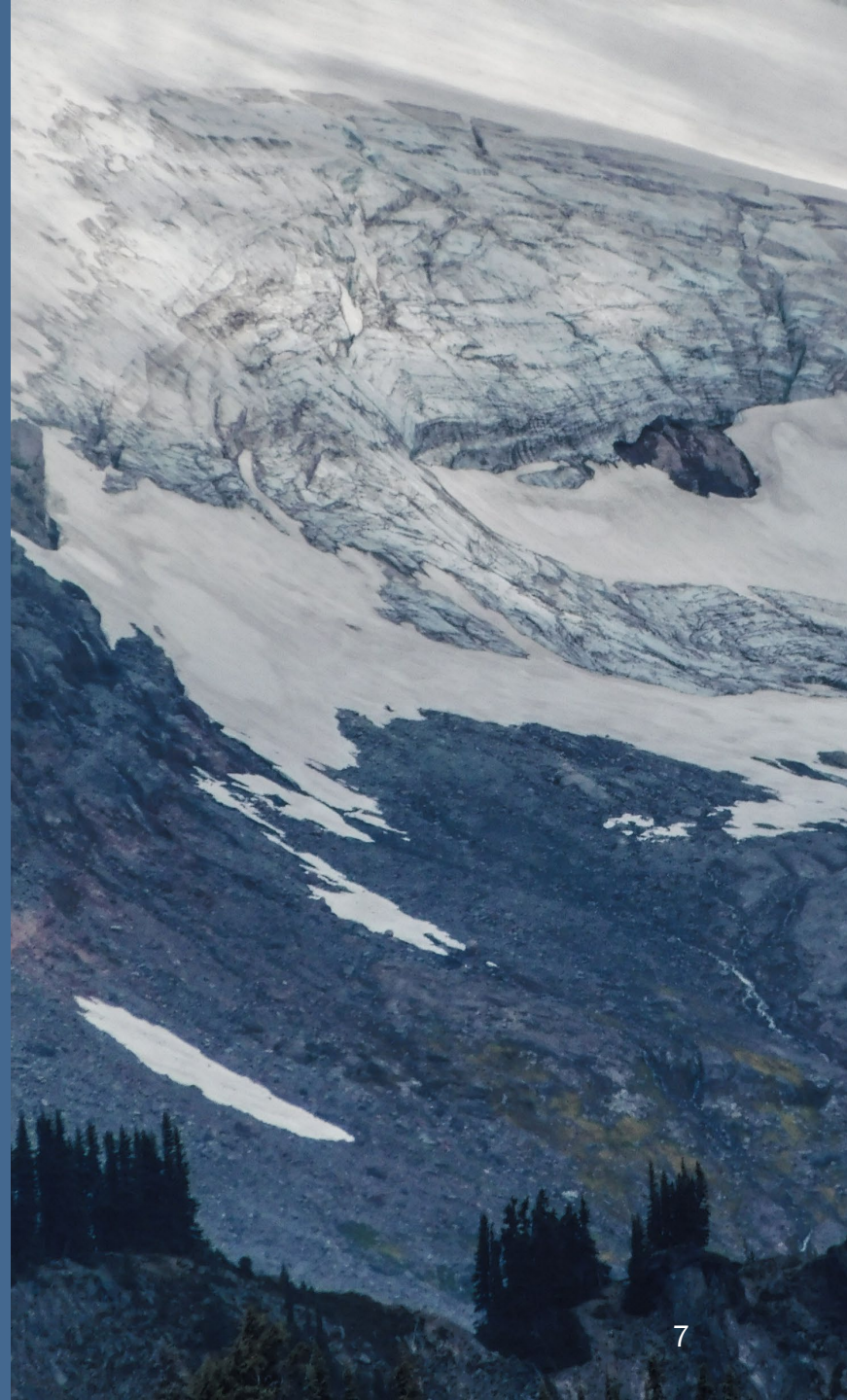
Other engagement opportunities: Tribes, EJ Council, overburdened communities

Agenda – Meeting #4

- Background and context: Greenhouse gas baselines and benchmarking and the CCA
- Presentations:
  - California Air Resources Board: Industrial Allocation under Cap-and-Trade
  - Colorado Department of Public Health and Environment: GEMM rule and BAT
  - Stockholm Environmental Institute: Issues and options for greenhouse gas benchmarks
- Discussion: Alternatives for benchmarking EITEs
- Open discussion: Member topics/questions
- Discussion and next steps for Phase 2
- Public comment opportunity



Greenhouse gas baselines and benchmarking and the CCA



Review of greenhouse gas baselines and benchmarks

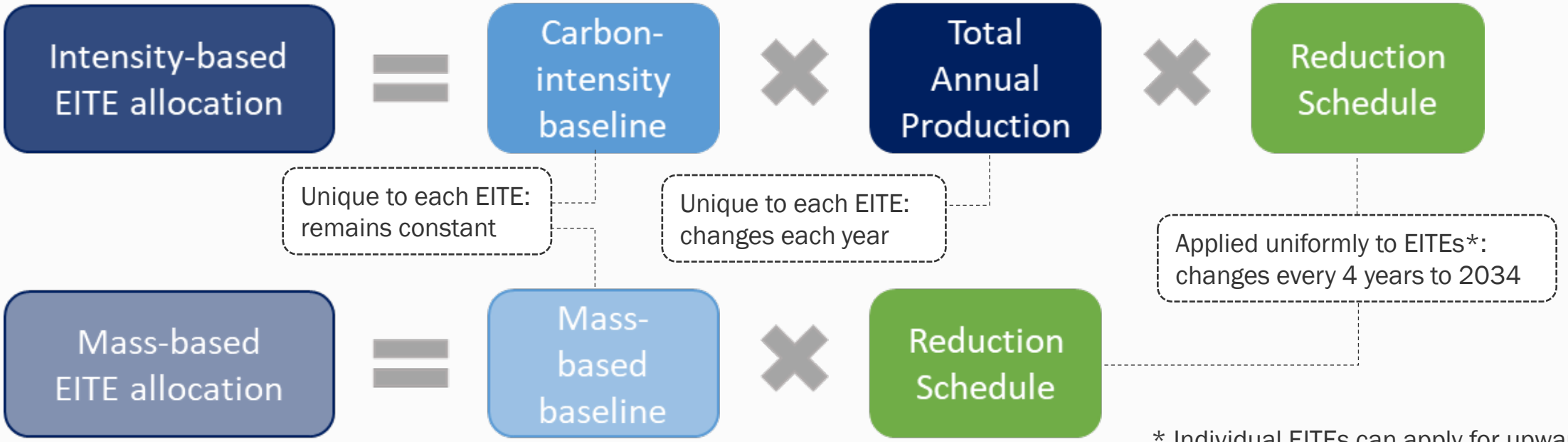
- CCA requires that Ecology's report to the legislature:

  "…describe alternative methods of emissions performance benchmarking and mass-based allocation of no cost allowances. At a minimum, the department must evaluate benchmarks based on both carbon intensity and mass, as well as the use of best available technology as a method for compliance RCW 70A.65.110(4)(a)

- Cap-and-Invest Program includes carbon intensity and mass-based approaches for allowance allocation:
  - Also provides opportunity for EITEs to use a best available technology assessment when applying for an adjustment to reduction schedule
- Review to focus on how these policies compare to other jurisdictions with similar policies or programs

EITE allocation methodology

Two methods for allocating no-cost allowances to EITEs:



* Individual EITEs can apply for upwards adjustment ahead of next compliance period

Note: 'Carbon-intensity baseline' based on EITE facility's average covered emissions and production during 2015-2019 while 'Mass-based baseline' based on EITE facility's average covered emissions during 2015-2019. Some exceptions may apply.

Reduction schedule and adjustments

- Reduction schedule:
  - Techno-economic benchmark based on deployment of technology or processes to reduce emissions
  - Applied uniformly to all EITEs
  - Only adjustment (discount factor) within EITE allocation formula
- Different to percentage reductions to annual program budget in WAC 173-446-210

Years	Reduction schedule for EITE allocation	Program allowance budget change*
2023-2026	100% of baseline emissions	7% annual reduction
2027-2030	97% of baseline emissions	7% annual reduction
2031-2034	94% of baseline emissions	1.8% annual reduction
2035-2050	Not specified in CCA (default is 94%)	1.8% annual reduction (2035-2042) then 2.6% (2043-2050)

*Reductions from total program baseline and adjustments as per WAC 173-446-200

Best available technology definition in CCA

RCW 70A.65.010(10)

"means a technology or technologies that will achieve the greatest reduction in greenhouse gas emissions, taking into account the fuels, processes, and equipment used by facilities to produce goods of comparable type, quantity, and quality.

...Best available technology must be technically feasible, commercially available, economically viable, not create excessive environmental impacts, and be compliant with all applicable laws while not changing the characteristics of the good being manufactured."

Questions?

Presentation: California Air Resources Board

California Cap-and-Trade Program Industrial Allocation

CALIFORNIA AIR RESOURCES BOARD

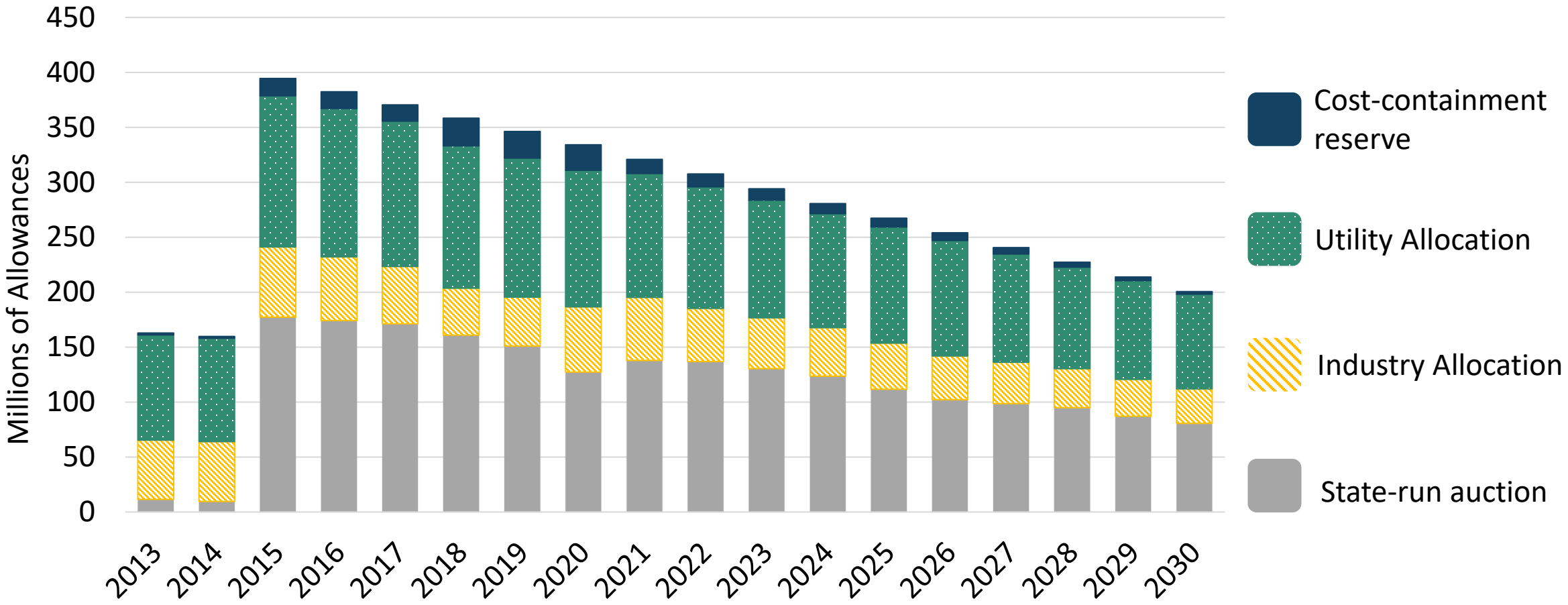
DECEMBER 19, 2024

CALIFORNIA
AIR RESOURCES BOARD

Overview: Industrial Facilities in the Cap-and-Trade Program

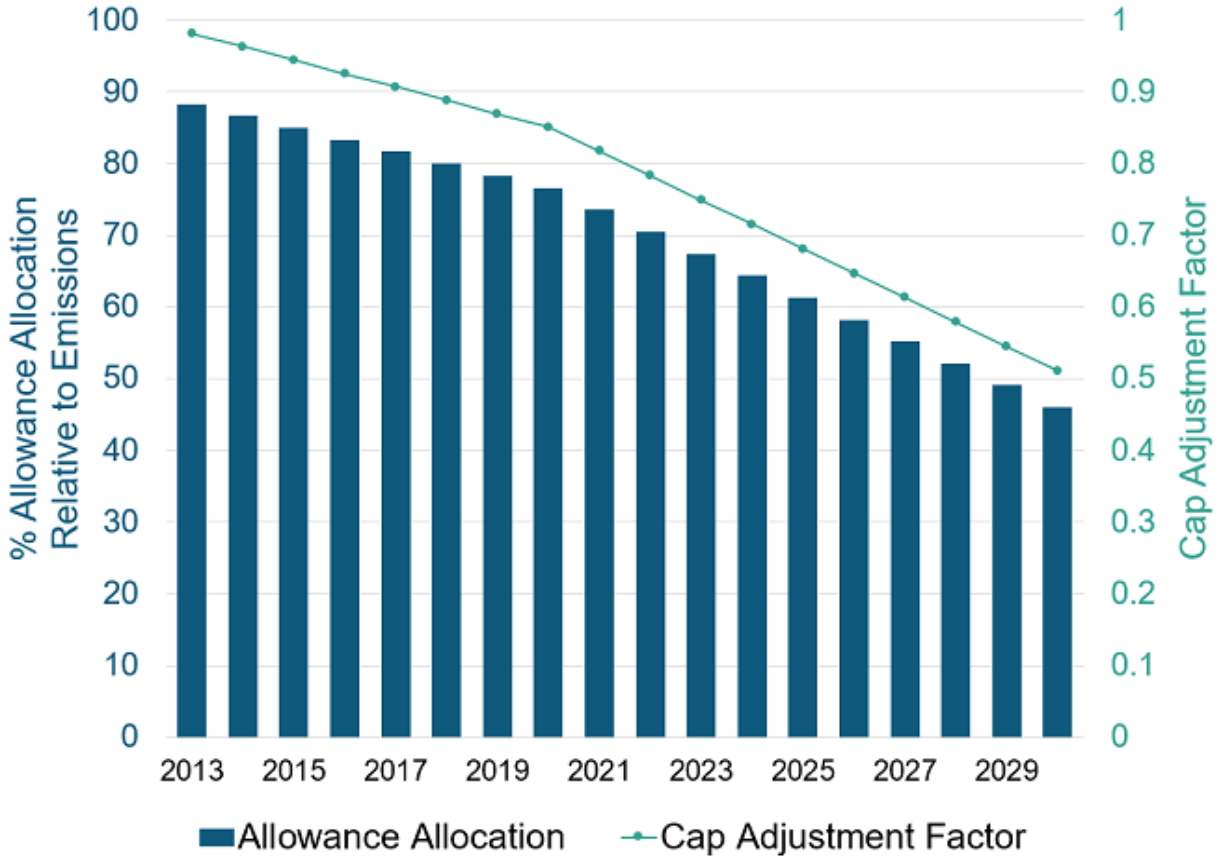
- Covered industrial facilities must meet all requirements of the Mandatory Reporting Regulation and Cap-and-Trade Program
  - Reporting and verification of emissions and production
  - Annual and triennial compliance obligation
- Most covered industrial facilities are eligible free allocation
- Purpose of industrial allocation
  - Minimize emissions leakage, i.e. emissions reductions in-state that are offset by increased emissions out-of-state
  - Preserves incentives to maintain efficient production within California

Cap-and-Trade Allowance Budgets



Allowance Allocation as a Percentage of Emissions for a Hypothetical Industrial Facility

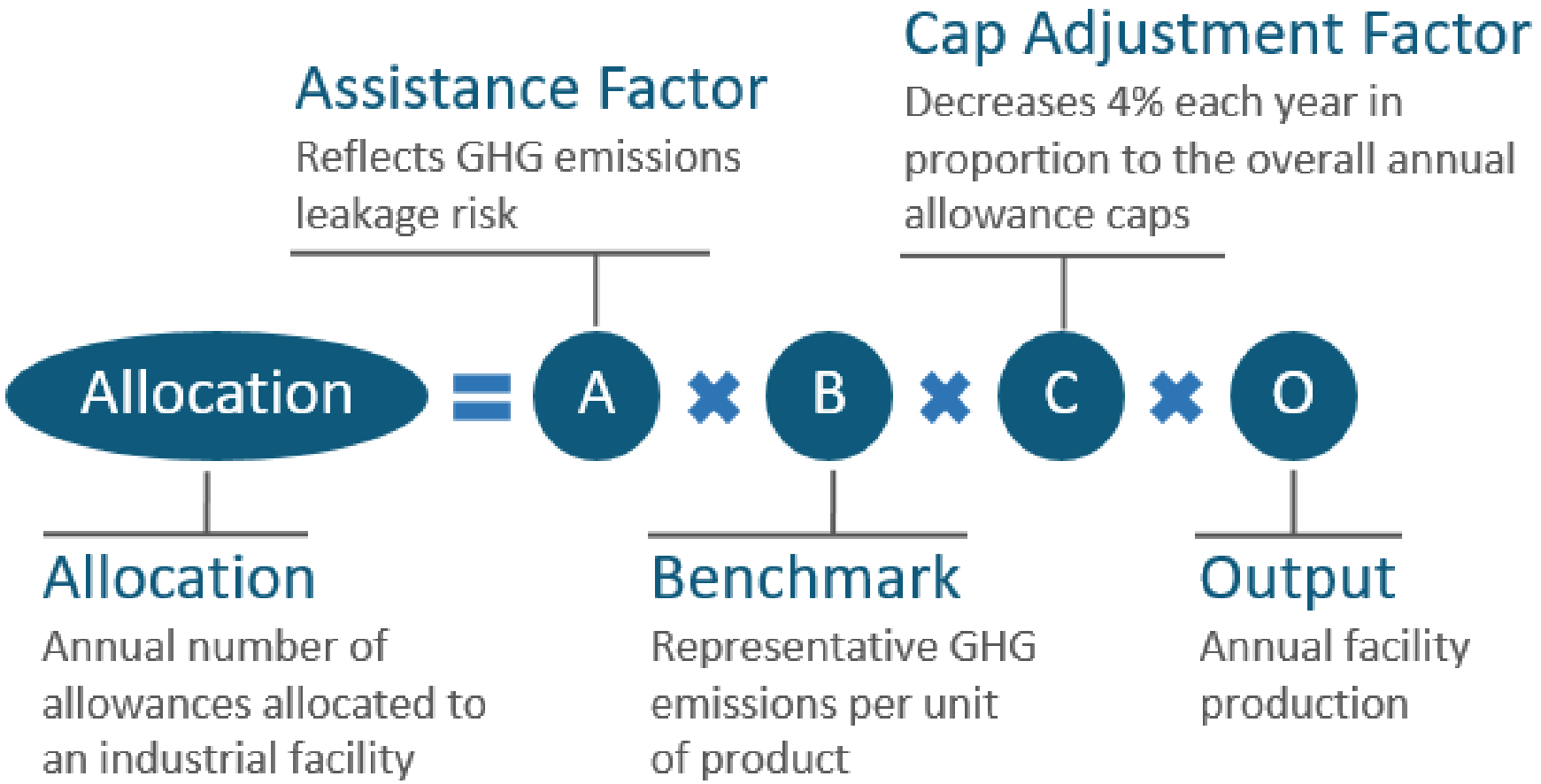
- Covered industrial facilities are allocated to minimize leakage risk
- Allowance allocation includes a cap adjustment factor that declines at the same rate of our allowance budgets (~4% annually from 2020-2030)
- Average facility receives 90% of emissions in free allocation in 2013, which ramps down at the cap adjustment factor



Industrial Allocation

Sector	Number of Facilities
Petroleum Refining and Hydrogen Production	23
Crude Petroleum and Natural Gas Extraction	23
Cement, Lime, Gypsum, and Clay Product Manufacturing	12
Fruit and Vegetable Canning	13
Other Food Manufacturing	12
Dairy Product Manufacturing	8
Glass Manufacturing	8
Metal Processing and Manufacturing	6
Chemical, Biological, and Pharmaceutical Manufacturing	8
Misc. Industrial Facilities, Legacy Contract Generators, and Waste-to-Energy Facilities	18

Industrial Allocation: Product-Based Allocation



Industrial Allocation: Product Benchmarks

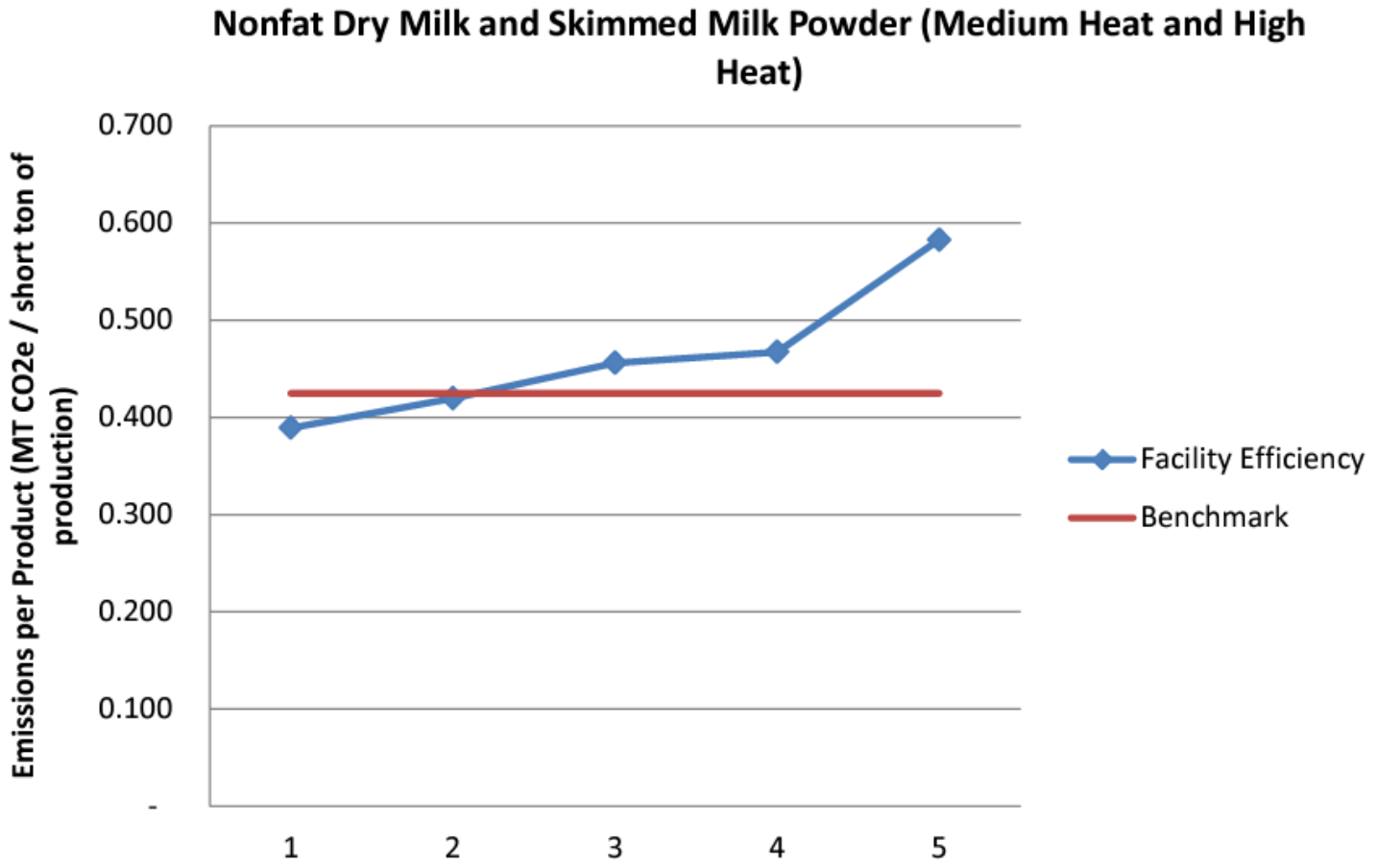
- Benchmarks represent the sector-wide emissions efficiency per unit of production
- Benchmarks are set to reward highly-efficient, low-emitting facilities within each sector
- Benchmarks are set at either 90% of average efficiency or the "best-in-class" facility (e.g., the most efficient facility in the sector)
  - Ensures that at least one facility in each sector achieves the benchmark

Industrial Benchmarks (abridged)

NAICS Sector Definition	NAICS code	Activity	Benchmark	Benchmark Units
Paperboard Mills	322130	Recycled Boxboard Manufacturing	0.516	Allowances / Air Dried Short Ton of Recycled Boxboard
Paperboard Mills	322130	Recycled Medium (Fluting) Manufacturing	0.392	Allowances / Air Dried Short Ton of Recycled Medium
Petroleum Refineries	324110	Petroleum Refining	3.89	Allowances / Complexity Weighted Barrel
Flat Glass Manufacturing	327211	Flat glass Manufacturing	0.495	Allowances / Short Ton of Flat Glass Pulled
Cement Manufacturing	327310	Cement Manufacturing	0.742	Allowances / Short ton of adjusted clinker and mineral additives produced
Iron and Steel Mills	331111	Steel Production Using an Electric Arc Furnace	0.170	Allowances / Short ton of Steel produced using EAF

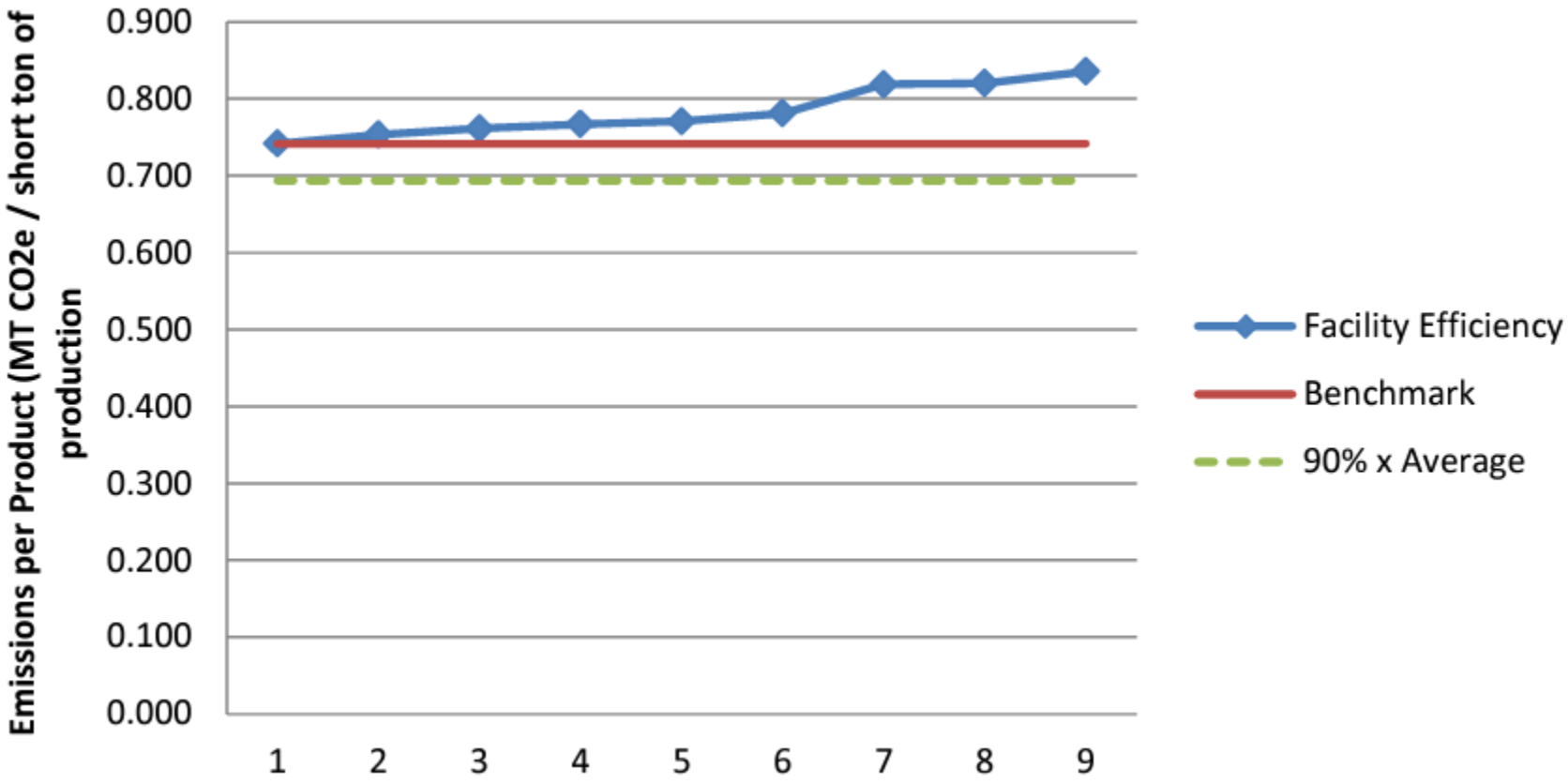
California Dairy Benchmark

- Example sector where benchmarks is set at 90% * weighted average facility emissions intensity



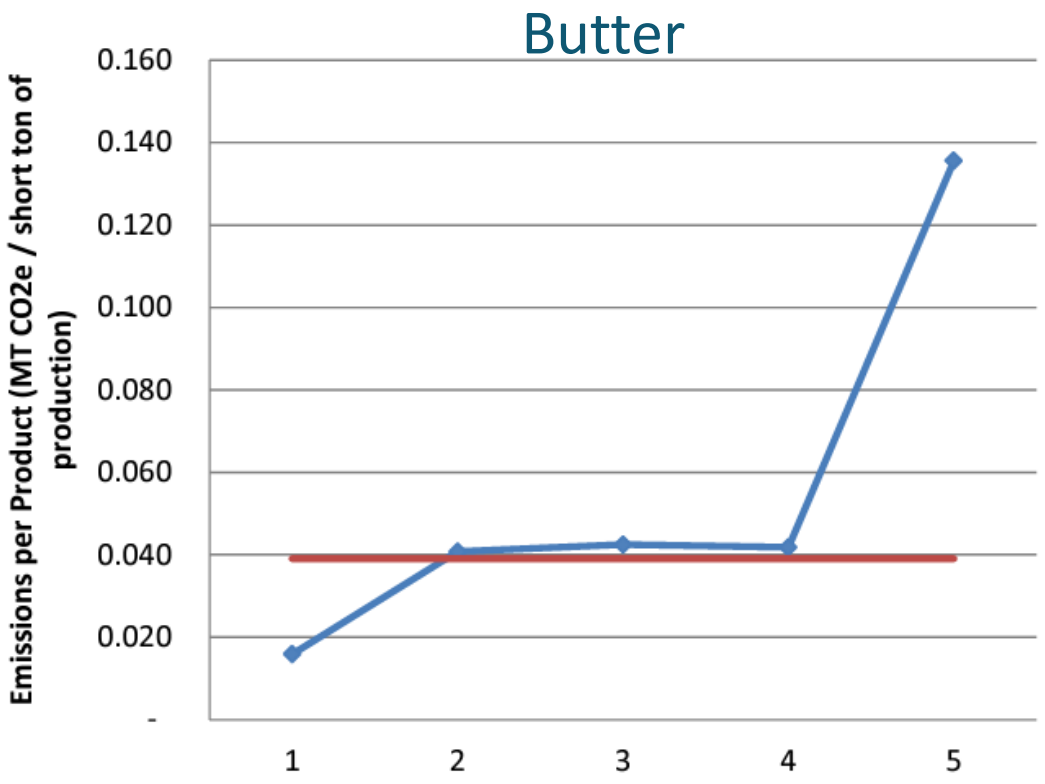
California Cement Benchmark

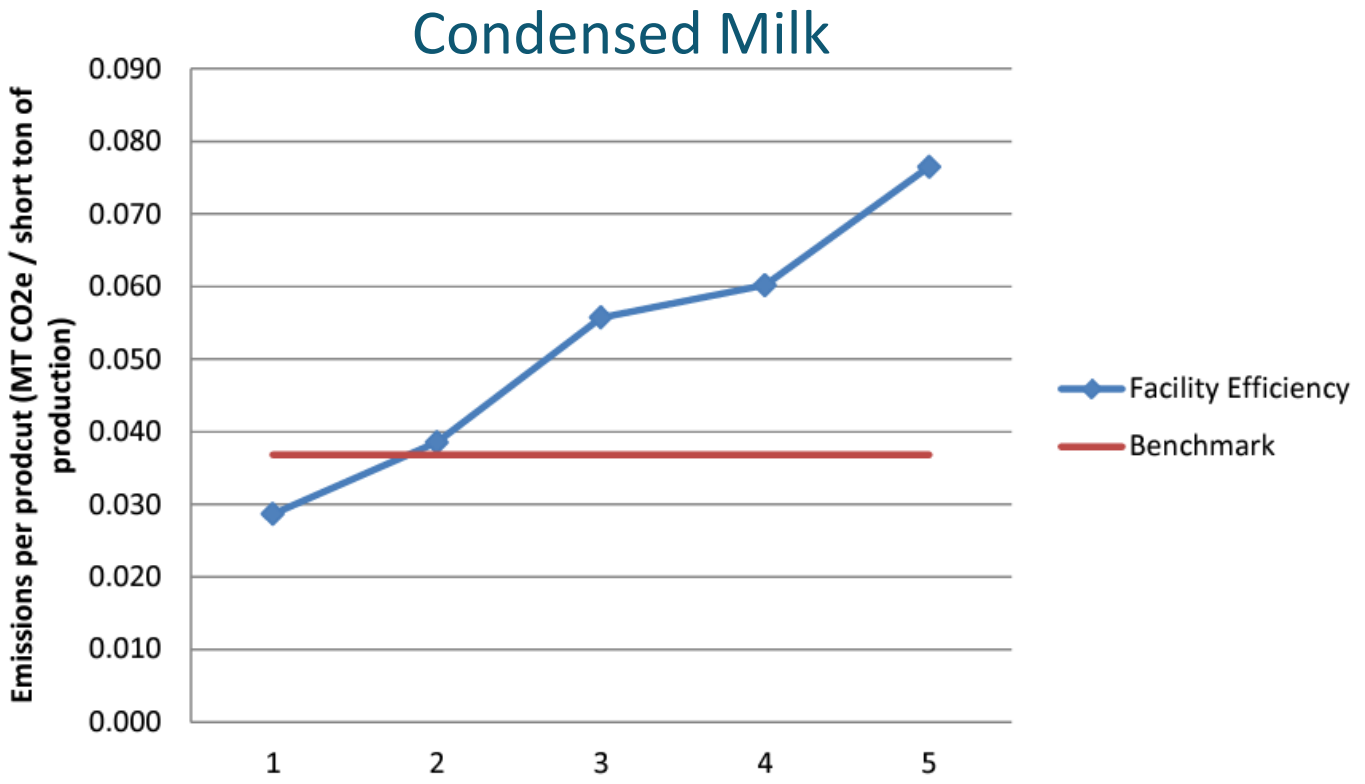
- Example sector where benchmarks is set at best-in-class



Multiple Benchmarks

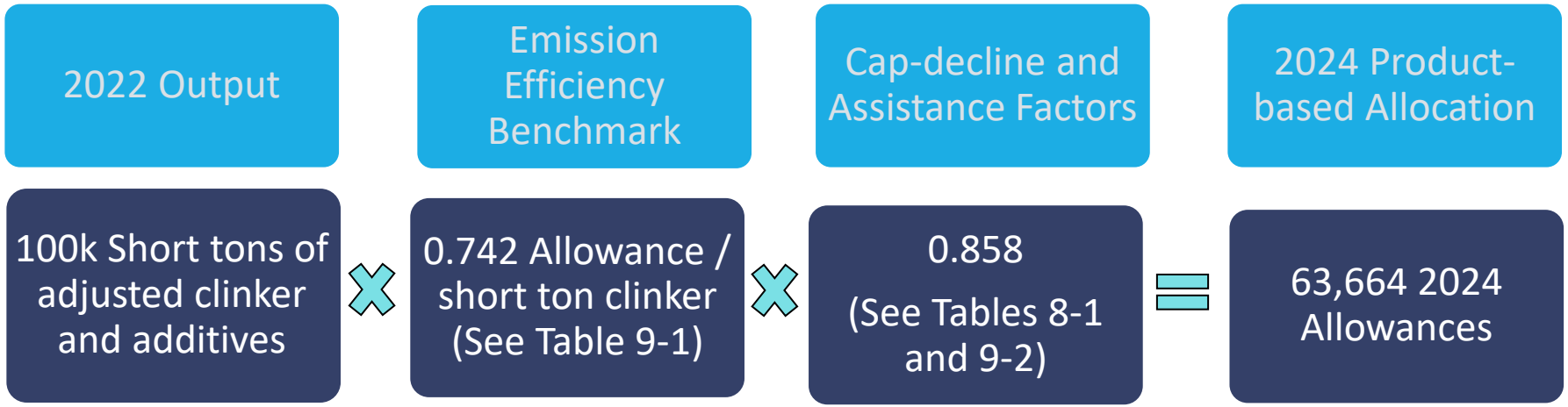
- Sectors may have multiple products and benchmarks. Example Dairy sector





Product-Based Allocation Example

- 2024 Allowance cement allocation
- Distributed by October 24, 2023
- Based on 2022 reported and verified production data

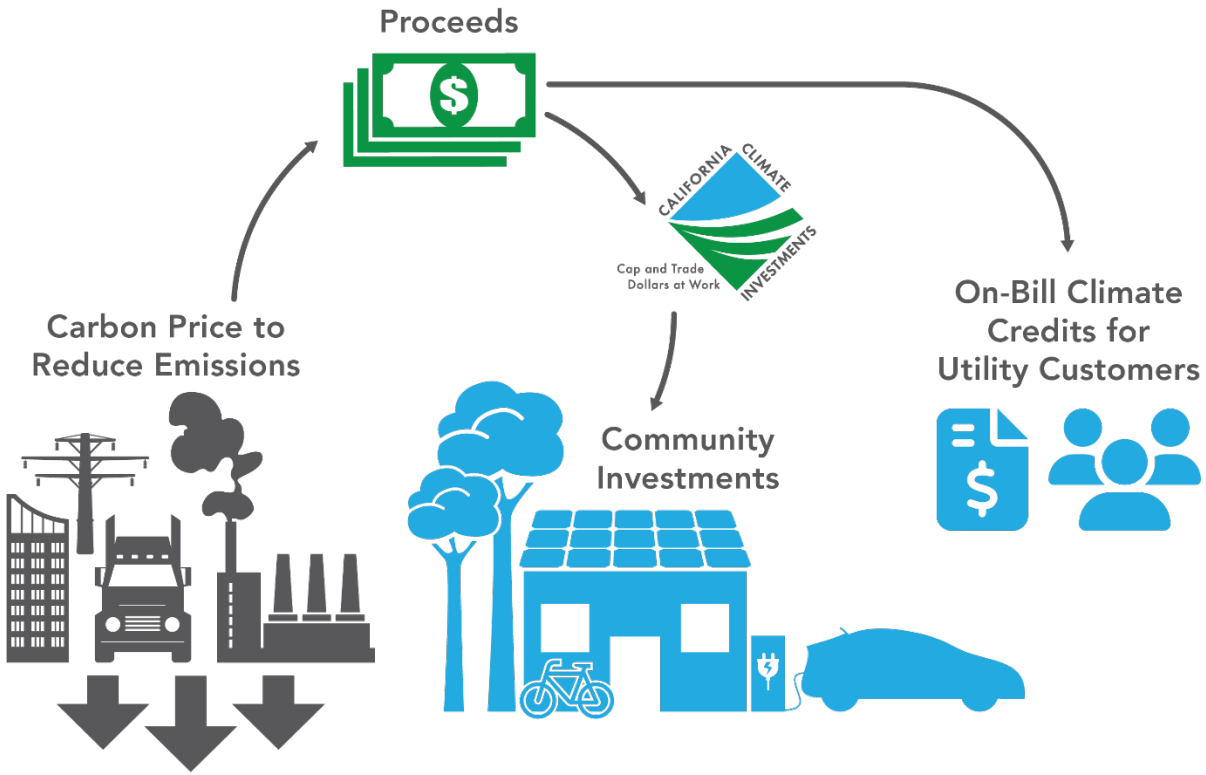


Product-based Allocation True-up

- Staff includes provisions to provide true-up to include an adjustment factor to handle changes in production, changes in benchmark or other factors, and to supply new entrant facility with allocation not previously provided
- Total Allocation = Initial Allocation + True-up
- 2024 Allocation Example which trues up 2022 allocation
- $TU_{2024} = \underbrace{A_{2022} * B_{cement} * C_{2022} * O_{2022}}_{\text{Allocation for 2022 using actual 2022 production}} - \underbrace{InitialAllocation_{2022}}_{\text{Previous 2022 Allocation that was based on 2020 production}}$

Cap-and-Trade Community Investments

- Cap-and-Trade auction proceeds directed to benefit Californians
  - $31.2B in auction proceeds to California Climate Investments
    - 105,922 Tons estimated criteria air pollutants reductions
    - 109.2 MMTCO2e estimated GHG reductions
    - 578,568 individual projects implemented
  - Funding for industrial decarbonization
    - Industrial Decarbonization and Improvement of Grid Operations ($61 M)
    - Food Production Incentive Program ($118 M)



Questions

- Cap-and-Trade Program Website:

  https://ww2.arb.ca.gov/our-work/programs/cap-and-trade-program

- Mandatory Reporting Regulation Website:

  https://ww2.arb.ca.gov/our-work/programs/mandatory-greenhouse-gas-emissions-reporting

Presentation: Colorado Department of Public Health and Environment

Colorado's Greenhouse Gas Emissions and Energy Management for Manufacturing

Megan McCarthy, *Senior Air Quality Planner*
Greg Marcinkowski, *Industrial Greenhouse Gas Specialist*

December 19, 2024

COLORADO
Department of Public Health & Environment

Outline

- ❏ Emission Sources in Colorado
- ❏ State GHG Targets and Projections
- ❏ GEMM Phase 1 Rule Overview
- ❏ Q&A

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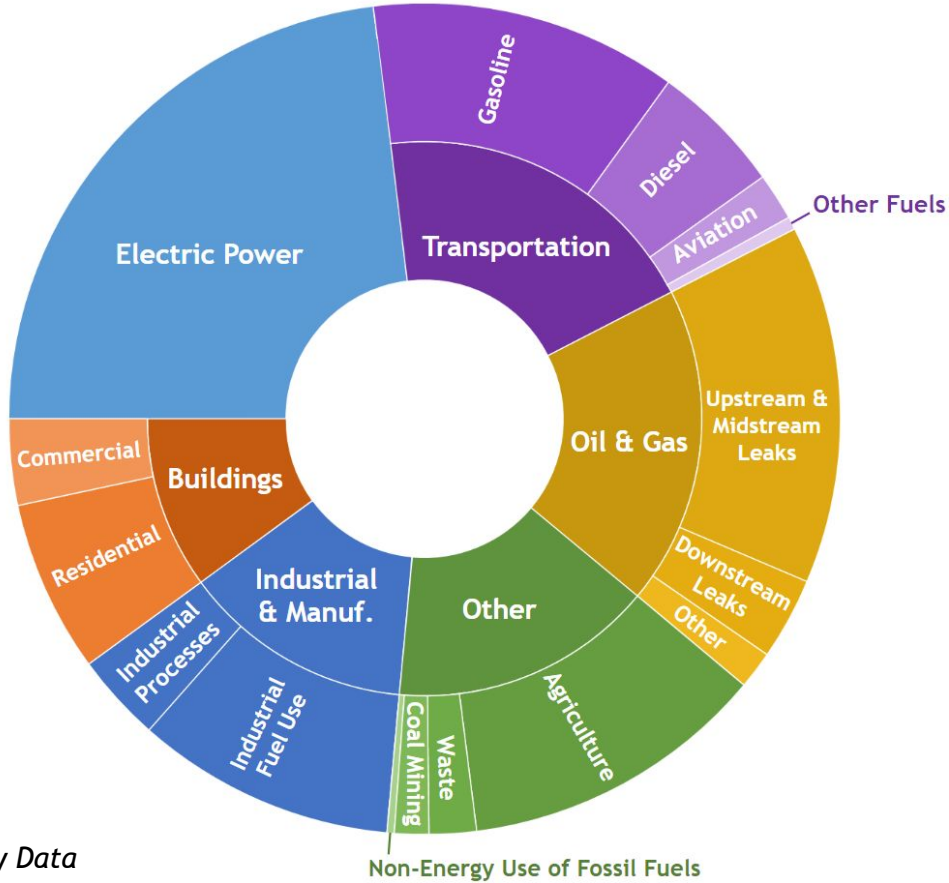
What's Driving Emissions in Colorado?



Source: Colorado 2023 GHG Inventory Data

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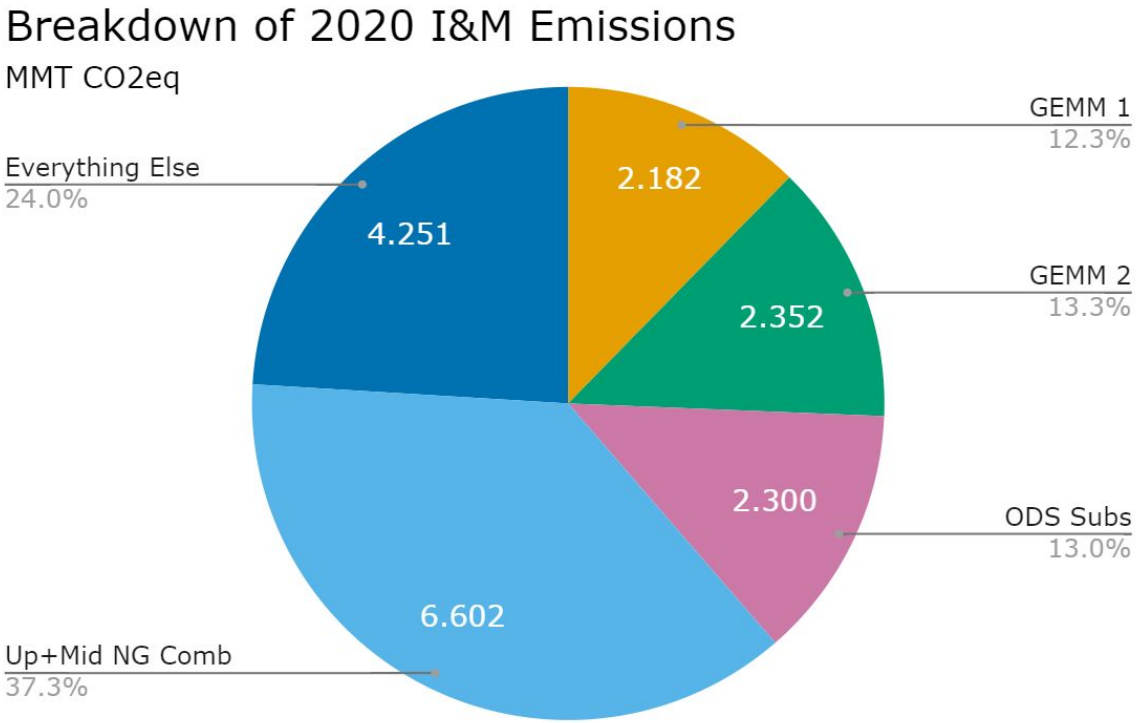
What's Driving Emissions in Colorado?



Source: Colorado 2023 GHG Inventory Data

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Statutory Reduction Targets

Statewide Targets:

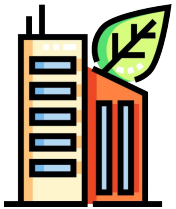
- 26% by 2025
- 50% by 2030
- Net Zero by 2050

Sector-Specific Targets

- Electric Utilities → 80% by 2030
- Gas Distribution Utilities → 4% by 2025 and 22% by 2030
- Oil and Gas → 36% by 2025 and 60% by 2030
- Industrial and Manufacturing → 20% by 2030

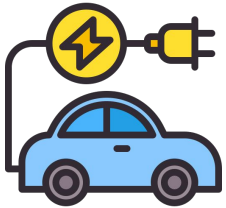
Disproportionately Impacted Community Protections

Rules and Programs: How are we getting there?



Building Performance Standards

- *7% reduction by 2026*
- *20% reduction by 2030*
- *Challenged by building owners*



Clean Transportation

- *Low and Zero Emission Vehicle Standards*
- *Advanced Clean Trucks*
- *Clean Miles Standard*

Oil and Gas

- *GHG Intensity Rule*

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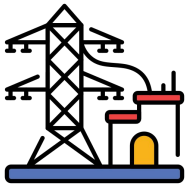
Rules and Programs: How are we getting there?

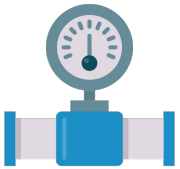
Industrial and Manufacturing Sector

- *HFCs phase-out*
- *22 covered facilities in GEMM 1 & 2 rulemakings*
- *Midstream oil and gas rule development*
- *Landfill methane*



Electric Utilities “Clean Energy Plans”

- *“Clean Energy Plans” for 80% + reduction*



Gas Distribution Utilities “Clean Heat Plans”

- *“Clean Heat Plans”*
- *Recovered methane*

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State Air Quality and Regulation

Colorado Air Quality Control Commission:

- Appointed by the governor and authorized by the Colorado General Assembly to oversee Colorado's air quality program according to the Colorado Air Pollution Prevention and Control Act.
- Adopts air quality management programs that promote clean and healthy air for Colorado's citizens and visitors, protect scenic and natural resources, and promotes greenhouse gas pollution abatement.

Colorado Air Pollution Control Division (APCD):

- Housed within CO Dept. of Public Health and Environment
- Develops air pollution and GHG regulations
- Issues air pollution permits
- Compliance and enforcement

CO Statutory Direction: GEMM Foundations

House Bill 19-1261:

- Defines EITE as iron, steel, aluminum, pulp, paper or cement.
- If EITE facilities show they are using greenhouse gas best available control technology (GHG BAECT) and energy best management practices (Energy BMP) through a third-party audit, the Commission's ability to require the facility to reduce GHG emissions is limited to a 5% reduction.

House Bill 21-1266:

- Gives the Air Quality Control Commission clear authority to require 5% reduction in an EITE's GHG emissions beyond what is determined to be GHG BAECT.
- Requires a 20% reduction in GHG's by 2030 from the industrial and manufacturing sector in Colorado vs. 2015.
- Requires protection of disproportionately impacted communities.

Colorado's AQCC Regulation 27

DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Air Quality Control Commission

REGULATION NUMBER 27

Greenhouse Gas Emissions and Energy Management for Manufacturing

5 CCR 1001-31

Outline of Regulation

PART A	General Provisions
PART B	GEMM 2 Facility Requirements
PART C	Energy-Intensive Trade-Exposed Stationary Source Requirements
PART D	Greenhouse Gas Credit Trading
PART E	Statements of Basis, Specific Statutory Authority and Purpose

GEMM 1(EITE) VS. GEMM 2 Key Differences

GEMM 1 (2021):

- 4 EITE facilities over 25K mt CO2e / year
- Annual GHG emissions limits based on intensity and a 5% reduction; mass-based limit varies annually with production
- Intensity limit re-assessed every 5 years through audit

GEMM 2 (2023):

- 18 various manufacturing facilities over 25K mt CO2e / year
- Annual, absolute GHG emissions limits based on 2015 – 2022 emissions trend
- Interim limits through 2029, then aggressive limits in 2030 and beyond.
- 20% reduction vs. 2015 for the group
- Limits do not consider production or intensity

Part C, GEMM Phase 1: Rule Basics

- Adopted in October, 2021
- Requires all EITE sources to perform a GHG BAECT and Energy BMP audit and submit the report to APCD by December 31, 2022 and every 5 years thereafter.
- Using the audit report, the APCD is required to make a GHG BAECT and Energy BMP determination for the source and recommend this determination to the Commission for approval.
- Starting in 2025, the EITE source must achieve a 5% annual emissions reduction using the approved intensity rate (ton of GHG emissions per ton of product) for the equipment audited.

GEMM Phase 1: Covered facilities

- Applies to all EITE stationary sources in Colorado with direct GHG emissions ≥ 25,000 metrics tons per year as reported under Colorado's Regulation 22

- Energy-intensive, trade exposed manufacturing source means an entity that principally manufactures iron, **steel**, aluminum, pulp, paper, or **cement** and that is engaged in that manufacture of goods through one or more emissions-intensive, trade-exposed processes, as determined by the commission

GEMM Phase 1: General Process

- Audit Plan
  - Audit Scope, Auditor Qualifications
- Audit Report
  - GHG BAECT and Energy BMP analysis and recommendation
- GHG BAECT and Energy BMPs Determination (facility benchmark)
  - GHG emissions intensity rate per unit of product (ton CO2e / ton of product)
  - Used to calculate the Mass-based Annual Emissions Limit for the facility
- Compliance Action Plan and Annual Compliance Certification
  - Compliance pathways

GEMM Phase 1: Audit Plan

- GHG BAECT Audit Scope
  - Top 80% of emissions units (tons CO2e)
  - Any emission unit that emits more than 2% of the total facility direct emissions (tons CO2e)
- Energy Audit Scope
  - Top 80% of energy consumption sources
  - ISO 50001 or Energy Star Certification satisfies the Energy BMP audit requirement.
- Identification of audit team including qualified third-party
- GHG or Energy Management Standards being used in the audit
- Division review and approval

GEMM Phase 1: Analysis

- GHG BAECT and Energy BMP analysis
  - Top-down, emission-unit specific BAECT and BMP selection process
  - Carbon-Capture and Underground Storage feasibility analysis for large emission units (≥ 100,000 tons CO2e/year)
  - Cost-effectiveness threshold for reduction measures equal to the current Social Cost of Greenhouse Gases ($ / ton CO2e)
  - Assesses energy, environmental and economic impacts to the EITE stationary source, allows for elimination based on impacts to market competitiveness
  - Assesses air pollution co-benefits for each reduction or energy efficiency measure

GEMM Phase 1: Recommendation

- Audit report will contain individual GHG BAECT and Energy BMP recommendation for all equipment included in the Audit Scope, issued in tons CO2e / ton of final product from the facility
- May be a single technology or suite of technologies
- Recommendations on GHG BAECT and Energy BMP options that provide greater co-benefits to the surrounding communities where the top emission unit control technologies or strategies are comparable in terms of cost-effectiveness

GEMM Phase 1: GHG Emissions Limit

- Starting in 2025, all EITE stationary sources must demonstrate a mass-based 5% reduction through application of an annual emissions limit
- This annual limit fluctuates from year to year, and is calculated by multiplying the GHG BAECT intensity rate (CO2e / ton of product) by the production from the previous year, then multiplying the result by .95.
- Allows for production to fluctuate each year while ensuring facilities are operating with BAECT plus a 5% reduction.

GEMM Phase 1: Compliance Options

- Actual direct emission reductions at the facility
- Retirement of non-expired GHG credits generated or purchased by the facility
- Installation and utilization of a retail distributed generation or net meter renewable energy project that reduces the GHG emissions from the EITE stationary source's electrical energy use

GEMM Phase 1: Compliance Timeline

- Starting in 2025, facilities must comply with the annual compliance limit, which is 5% below the GHG BAECT and Energy BMP emissions rate determination.
- Facilities must again perform a GHG BAECT and Energy BMP audit in the years 2027, 2032 and 2037.
- The Division is required to make a new GHG BAECT and Energy BMP determination after each audit.
    - Annual Emission Limit for Compliance Year in tons CO2e = (((GHG BAECT & Energy BMP Intensity Rate Determination) * (Compliance Year Facility Product)) + Non-GHG BAECT determination) * 0.95

GEMM Phase 1: Points of Compliance

- Compliance action plan
  - The EITE Stationary source will submit Compliance Action Plan within 120 days of the Division's determination of the GHG BAECT and energy BMP rate including timelines for meeting the annual and/or interim emissions limit
  - The Compliance Action Plan includes any actions and timeline to meet the co-pollutant reductions, as applicable
- Annual compliance certification
  - Each year, starting 3 years after the initial audit, the EITE stationary source must submit an annual compliance certification showing how they are meeting the mass-based required emissions reduction for that year.

GEMM Phase 1: Results of 2022 Audit

- Two facilities determined to already be operating with BAECT and Energy BMPs

- Improvements were recommended at the other two facilities to bring them up to a BAECT operating level
  - Largely efficiency improvements that were a net benefit to the facilities

GEMM Phase 1: Compliance Timeline

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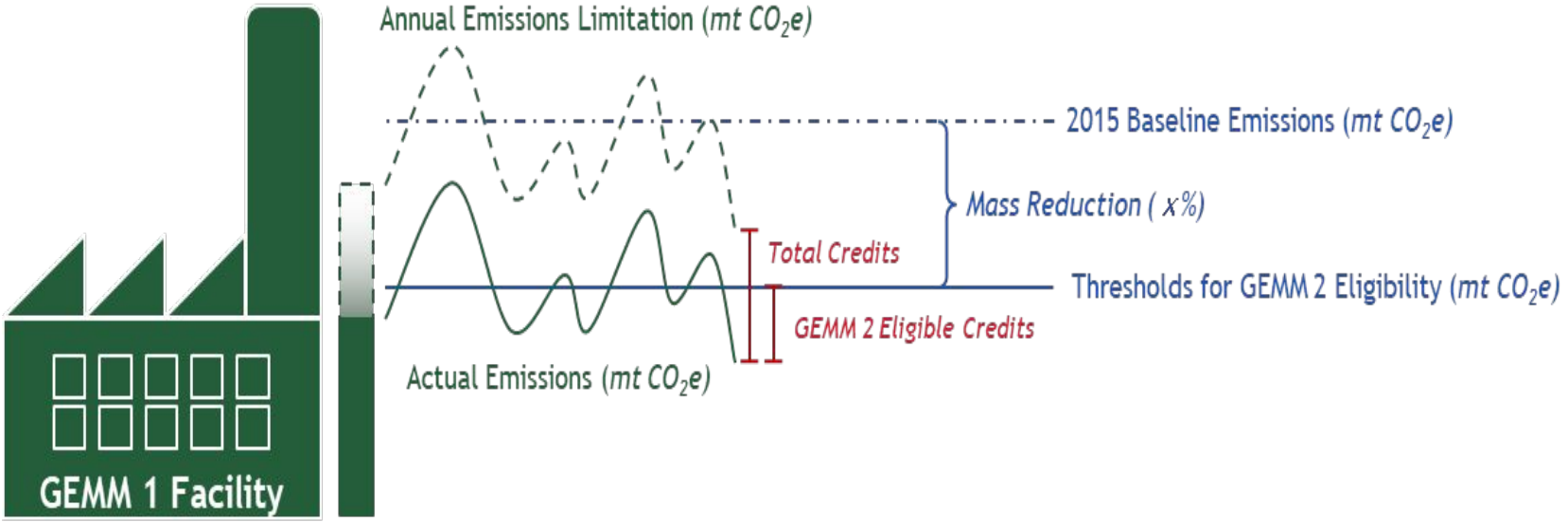
GEMM & GHG Credit Trading

- GEMM 1 & GEMM 2 facilities can interact through the GHG Credit Trading System by the sale and purchase of GHG credits
- Core issue of GEMM 1 vs. GEMM 2 credit generation variations (in particular GEMM 1 -> GEMM 2)
    - Intensity-based limit credit generation vs. Mass-based limit credit generation (baseline and credit)
    - GEMM 1 has the ability to increase emissions and generate credits at the same time - must not compromise the 20% reductions from the GEMM 2 group (i.e. a credit sold to GEMM 2 from GEMM 1 must reflect a real reduction in 1 mt CO2e)

GEMM & GHG Credit Trading



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Questions?

Helpful Links:

Colorado's GEMM 1 Website
Colorado's GEMM 2 Website

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Presentation: Stockholm Environmental Institute

Issues and Options for Benchmarking Industrial GHG Emissions

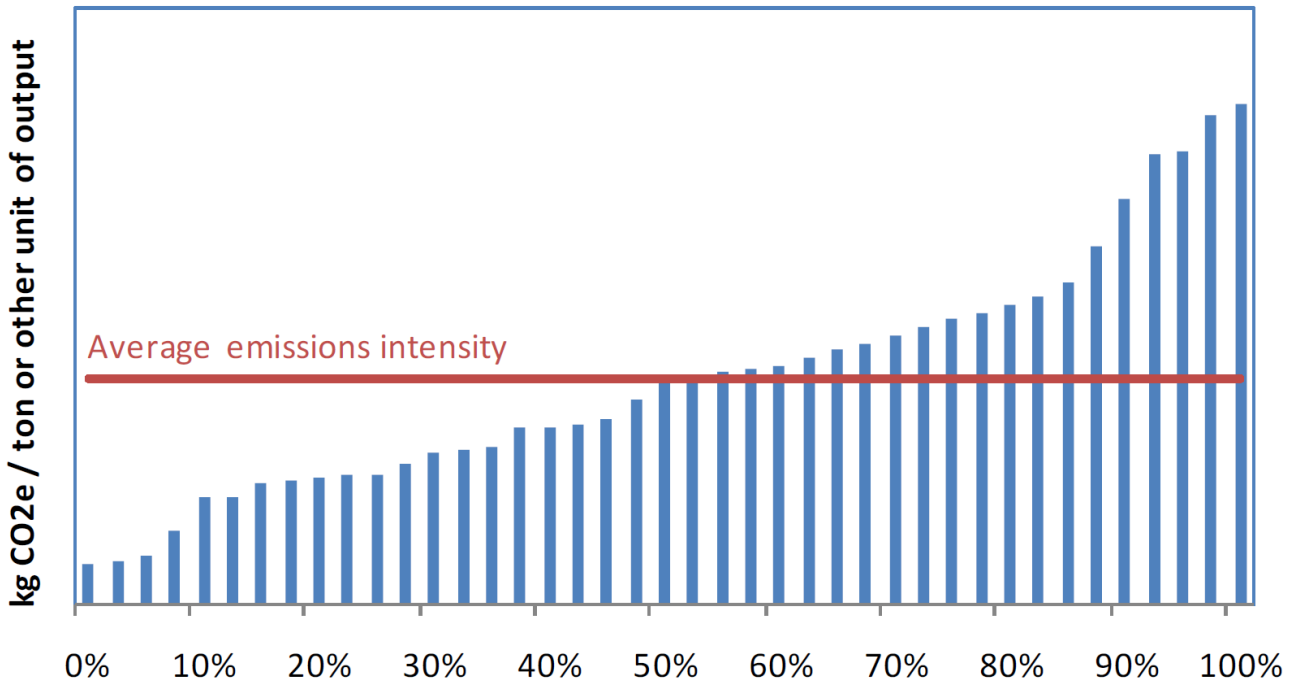
Derik Broekhoff

SEI Stockholm Environment Institute

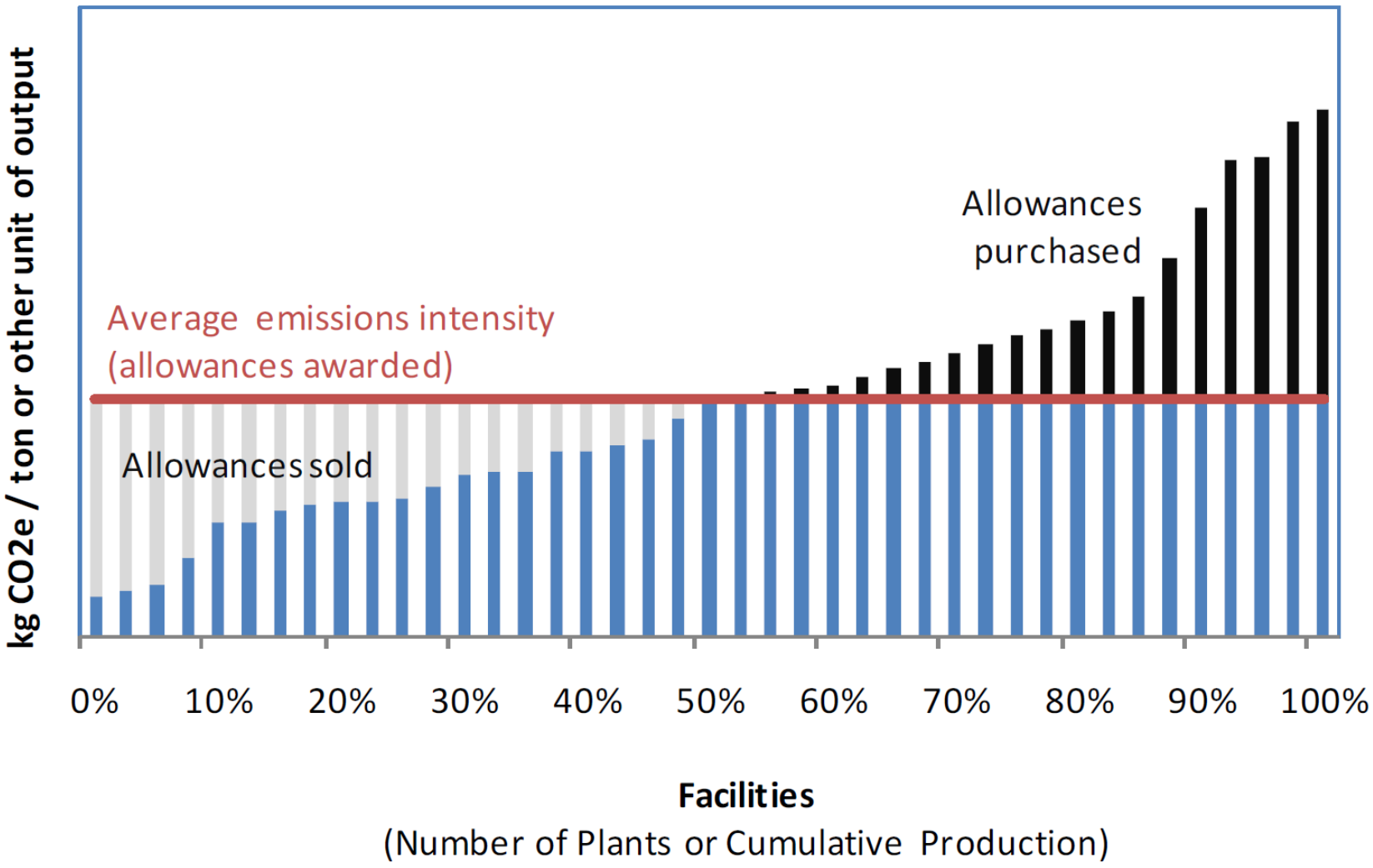
December 19, 2024

Industrial emissions benchmarking – general formula

$$GHG\ Benchmark = \frac{Emissions\ (tons\ CO_2e)}{Unit\ of\ Output\ (tons, \$, or\ other\ metric)}$$



Benchmarking under “cap-and-trade” policy



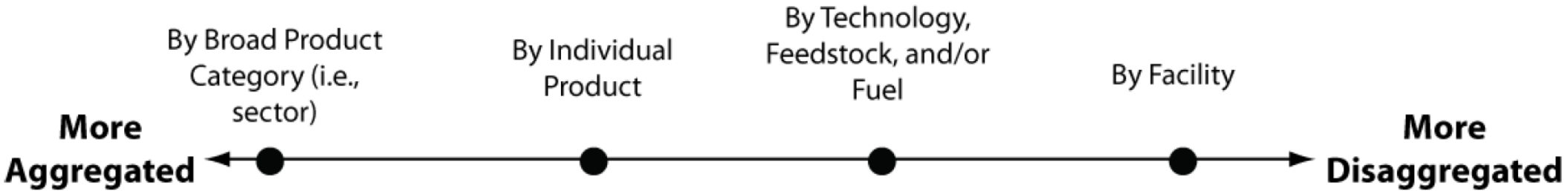
Key considerations

- How to define the product or activity being benchmarked
- Measurement protocols and boundaries
- Benchmark “ambition” (average or better-than-average performance levels)
- Data sources

Defining the product or activity being benchmarked

- Some sectors have products and processes that are simple and uniform, others do not
- Need to balance…
  - Obtaining emissions and production data from a large enough group of facilities to be representative (e.g., global steel industry)
  - Defining benchmarks consistent with the circumstances of the facilities they are intended to assess (e.g., EAF steel plant using 100% scrap steel)

Level of aggregation



Aluminum	Cast aluminum, rolled aluminum	Anode type	e.g., Intalco, Ferndale
Cement	Clinker (white or grey)	Wet vs. dry kiln	e.g., Ash Grove Cement, Seattle
Glass	Flat, container, fiber glass	Fraction of recycled cullet used	e.g., Cardinal Glass, Winlock
Paper	Newsprint, writing paper, market pulp	Mechanical versus chemical pulp	e.g., Weyerhaeuser, Longview
Steel	High-alloy steel, hot-rolled steel, cold-rolled steel	EAF vs. BOF, integrated versus rolling mill	e.g., Nucor Steel, Seattle

Benefits and challenges of disaggregation

Level of Disaggregation	Benefits	Challenges
Broad product category (i.e., sector-wide) Benchmarks developed for an entire sector's output (e.g. pulp and paper)	Can be simpler than more disaggregated benchmarks. Provides maximum flexibility to industry in reducing emissions.	Smaller, older manufacturers performing far from the sector-wide average may be less able to upgrade, replace capital stock, or access alternative feedstocks. Does not recognize trade of intermediate products.
Product-specific Benchmarks developed for particular products (e.g., cardboard) but not for individual facilities	Provides greater flexibility and incentive to industry to reduce emissions than do facility-specific benchmarks, particularly in cap-and-trade context.	Determining what constitutes a unique product (including intermediate products) can be very challenging. Requires confidential data on product output. May not be as applicable in performance standard or voluntary context since does not recognize facility-specific conditions.
With consideration for technology, feedstock, and/or fuel	Can recognize long-lived investments or particular market conditions, possibly increasing flexibility in a voluntary program	Potentially large administrative burden. Erodes incentive for larger-scale restructuring of the industry (distorts price signal.)
Facility-specific Individual benchmarks developed for each facility (e.g., a particular paper mill)	Can tailor benchmarks to individual sites and set more ambitious benchmarks for facilities with greater GHG-reduction opportunities, thereby potentially increasing economic efficiency, at least in a regulatory or voluntary context	Potentially huge administrative burden to develop benchmarks for each individual facility. Erodes incentive for larger-scale restructuring of the industry (distorts price signal).

Is there an “aggregation sweet spot”?

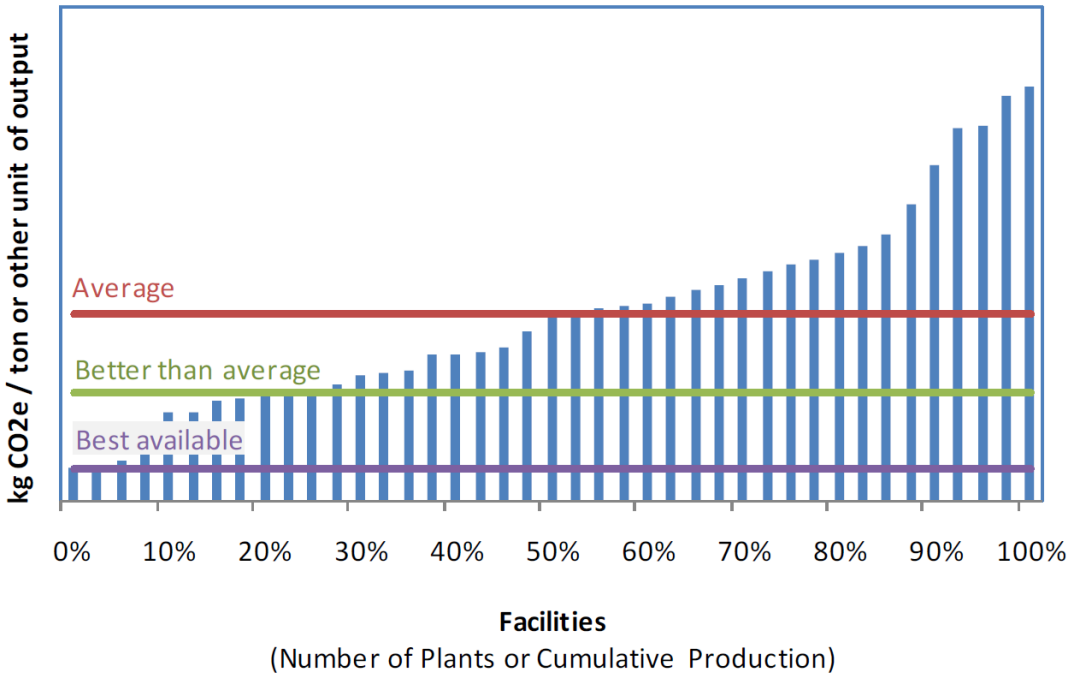
- Other cap-and-trade programs (EU ETS, California-Quebec) have followed a “one product, one benchmark” rule
- Avoids differentially favoring some products over others if aggregation is too high, but also incentivizes structural and production process changes
- Early studies for the EU ETS suggest this best preserves price signal for individual firms
- But… challenges can remain in defining what is a unique product (e.g., different grades and characteristics)

Boundaries for quantifying emissions

- In most cases, benchmarks are specified in terms of *direct emissions* associated with producing *final products.* However:
  - For some sectors & products, including indirect emissions may be necessary to "level the playing field" – e.g., where electricity & direct fuel combustion are interchangeable in production processes (cf. Zipperer et al. 2017).
  - Benchmarks may also be needed for *intermediate products,* where these are traded between firms. These benchmarks can then still be applied to integrated firms that produce intermediate products internally (e.g., EU ETS).

Benchmark ambition

- How ambitious to make the benchmark depends on policy context and goals
- For allowance allocation, benchmark does not itself determine level of abatement, but rather helps to prevent leakage
- A “better than average” benchmark is often sufficient to achieve this aim



Data sources

- Developing meaningful benchmarks may require GHG performance data from more than just Washington State
- Washington has only a handful of facilities in key industrial sectors, and so a broader geographic cohort of facilities will be needed – e.g. across Western U.S., nationally, or in North America – to establish robust and useful benchmarks
- Broadening the geographic cohort could also help reflect the relative performance of Washington industries

Thank you!

More information:

- Erickson, P., Lazarus, M. and Hermann, H. (2010). *Issues and Options for Benchmarking Industrial GHG Emissions*. https://www.sei.org/publications/issues-options-benchmarking-industrial-ghg-emissions/
- Questions? Derik.Broekhoff@sei.org

Discussion

Alternatives for benchmarking EITEs in WA and role of best available technology

Discussion questions

1. Are there other policy or technical aspects related to emissions performance benchmarking that should be considered in Ecology's review of greenhouse gas baseline/benchmarking approaches?
2. What factors should be considered when comparing alternative approaches for greenhouse gas baselines/benchmarks for EITEs?
3. Are there any other policy examples, resources or data that Ecology should use to inform its review of these alternatives approaches?

Open discussion

Questions or topics proposed by members

Discussion and next steps

Work program for Phase 2

Policy objectives of CCA: Legislative intent

- Cap-and-Invest Program intended to work alongside other climate policies to help Washington achieve its statewide greenhouse gas emissions limits
- Legislature expressed intent to recognize special nature of EITEs alongside other policy objectives in the CCA (RCW 70A.65.005)
- Ecology considering how these policy objectives can inform the design and review of alternative approaches to EITE allowance allocation for 2035-2050

Policy objectives: summary

- Achieve statewide greenhouse gas emissions limits
- Avoid leakage and increased life-cycle emissions from imports
- Encourage innovation, energy efficiency, use of lower carbon products by EITEs
- Promote a growing and sustainable / low carbon economy
- Enable innovative new businesses
- Contribute to a healthy environment for all communities
- Prevent job loss and provide protective measures for workers adversely impacted by the clean energy transition
- Pursue significant reductions of emissions and pollutants in overburdened communities

Discussion Questions

- Are all these policy objectives relevant to EITE allowance allocation? Are there any missing?
- How does (or doesn't) the current EITE allocation approach support these policy objectives?
- What data or methods could be used to assess policy objectives/impacts of alternative approaches to EITE allocation for 2035-2050?

Note: other criteria may also be relevant to assessing alternative policy options, such as cost, equity, administrative complexity, and technical feasibility.

Example framework for assessing effectiveness of policy options

CCA policy objective	Potential assessment questions (examples)	Potential data or methods for assessment (examples)
Achieve statewide greenhouse gas emissions limits	How does the policy option support achievement of statewide limits?	Modeling of anticipated emissions reductions from EITEs and other covered entities
Avoid/minimize leakage and increased life-cycle emissions from imports	How does the policy option avoid or minimize leakage and increased life-cycle emissions?	Assessment of leakage risk and how it might change over time. Data on carbon intensity of imports
Pursue significant reductions of emissions and pollutants in overburdened communities	How does EITE allocation affect air quality in overburdened communities?	Data on relative contribution of EITEs to air pollution in communities compared to other sources and how it might change over time
Etc.		

Note: other criteria may also be relevant to assessing alternative policy options, such as cost, equity, administrative complexity, and technical feasibility.

Preliminary Environmental Justice Assessment

- Identify overburdened communities and vulnerable populations impacted by greenhouse emissions from EITEs and potential harms and benefits
- 28 active EITEs located within or nearby Tribal reservations or overburdened communities*
- For the 16 overburdened communities identified by Ecology as highly impacted by air pollution:
  - 14 active EITE facilities located within/nearby and account for ~26% of total reported greenhouse gas emissions from stationary sources and estimated mobile sources (see Ecology 2023 Report)

*Includes the 16 communities identified by Ecology as overburdened and highly impacted by air pollution and census tracts ranked 9 or 10 in Environmental Health Disparities Map

Active EITEs as of December 2024

	Within	Nearby
Tribal reservation	2	6
Overburdened communities*	10	10
Major sources of air pollution	7	9
Total reported EITE GHG emissions 2022	1,719,821 (MT CO2e)	9,779,988 (MT CO2e)

Note: Total reported emissions from all active EITEs in 2022 was 13,010,360 MT CO2e, excludes facilities currently closed/curtailed

Any comments or questions on this preliminary assessment?

Ecology's report will focus on:

- ✓ Best practices for avoiding ‘leakage’ of emissions and economic harm to businesses
- ✓ Alternative methods for measuring the emissions generated by EITEs per unit of production (i.e. baseline emissions for EITEs)
- ✓ How to determine the amount of allowances EITEs receive in 2035-2050
- ✓ Opportunities and barriers for decarbonization of EITEs in Washington
- ✓ Implications for environmental justice outcomes, including local air quality impacts, and statewide emissions limits
- ✓ Potential impacts on Cap-and-Invest revenues

EITE IAG: Work Program Phase 1

Meeting 1: Aug. 22 — Background and context

- Policy Advisory Group purpose and expectations
- Background and context for EITE allocation
- Report to the Legislature on EITE allocation 2035-2050

Meeting 2: Oct. 17th — Theory and practice of carbon leakage policies

- How EITE allocation in WA (and other jurisdictions) works
- Global approaches for preventing leakage within carbon pricing policies
- Issues and limitations of carbon leakage policies

Meeting 3: Nov. 14th* — Decarbonization challenges and opportunities for EITEs in WA

- Decarbonization options and pathways for EITE industries in WA
- Policies and programs to enable industrial decarbonization
- Key constraints and opportunities for decarbonization of EITEs in WA

Meeting 4: Dec. 19th* — GHG emission baselines and benchmarks for EITE facilities

- How GHG baselines are determined in WA and comparisons with other jurisdictions
- Approaches for establishing GHG emission benchmarks for industrial/EITE facilities
- Role of best available technology analysis

EITE IAG: Work program Phase 2

Key discussion topics

- Findings from Ecology's review of best practice policies for avoiding carbon leakage and economic harm to businesses
- Findings from Ecology review of alternative methods for developing GHG baselines and benchmarks for EITE facilities
- Draft findings from Ecology review of alternative methods for allocating no costs allowances to EITEs in 2035-2050
- RMI analysis of industrial decarbonization pathways and investment opportunities
- Preliminary environmental justice assessment of EITE allocation approaches
- Ecology's draft policy recommendations based on findings of the above reviews

Other topics raised by IAG members:

Current and future state of WA electricity grid | Timelines for electrification | Permitting as a barrier to decarbonization | Economic and workforce impacts of leakage/decarbonization

Discussion Question

Are there any other topics that members think should be part of the work program in Phase 2?

EITE PAG: Work Program Phase 2

Indicative meeting schedule and topics for 2025

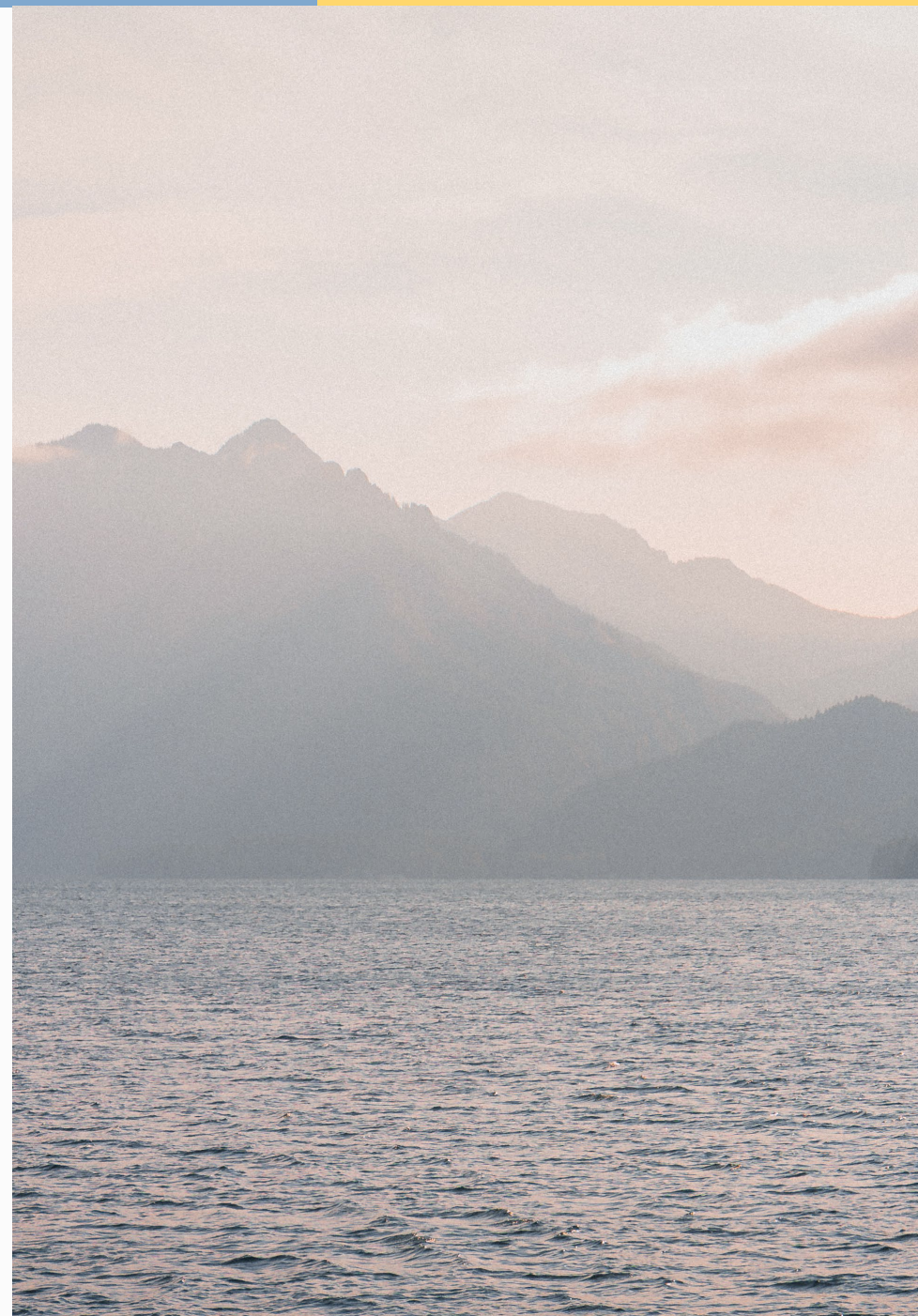
Meeting 1: early/mid March	• Review of best practice policies for avoiding carbon leakage • RMI analysis of decarbonization and investment opportunities
Meeting 2: mid/late April	• Review of alternative methods for greenhouse gas baselines/benchmarks for EITEs
Meeting 3: early/mid June	• Review of alternative methods for EITE allowance allocation for 2035-2050
Meeting 4: mid/late July	• Ecology's draft policy recommendations • Preliminary environmental justice assessment

Questions or comments

- Any other feedback or comments related to the report or work program for the advisory group?

Next steps

- This was the final meeting for Phase 1
- Summary notes circulated for feedback
- We expect to reconvene working group in March 2025 for Phase 2



Thank you!

If you have additional questions or comments, please send them to:

Adrian Young
Cap-and-Invest Industrial Policy Lead
CCAEITEIndustries@ecy.wa.gov

Public comment opportunity

Guidelines for providing public comment

- Up to two minutes per person
- Please keep the comments related to EITEs and the report to the Legislature
- Ecology will not respond to comments in this meeting
- To submit written comments, use our digital comment platform
- Please use “raise hand” button to indicate that you wish to provide a comment

Thank you!

If you have additional questions or comments, please send them to:

Adrian Young
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