DEPARTMENT OF ECOLOGY
State of Washington

Cap-and-Invest Electricity Forum:

Electricity Imports and Centralized Electricity Markets

March 6, 2025

Forum materials

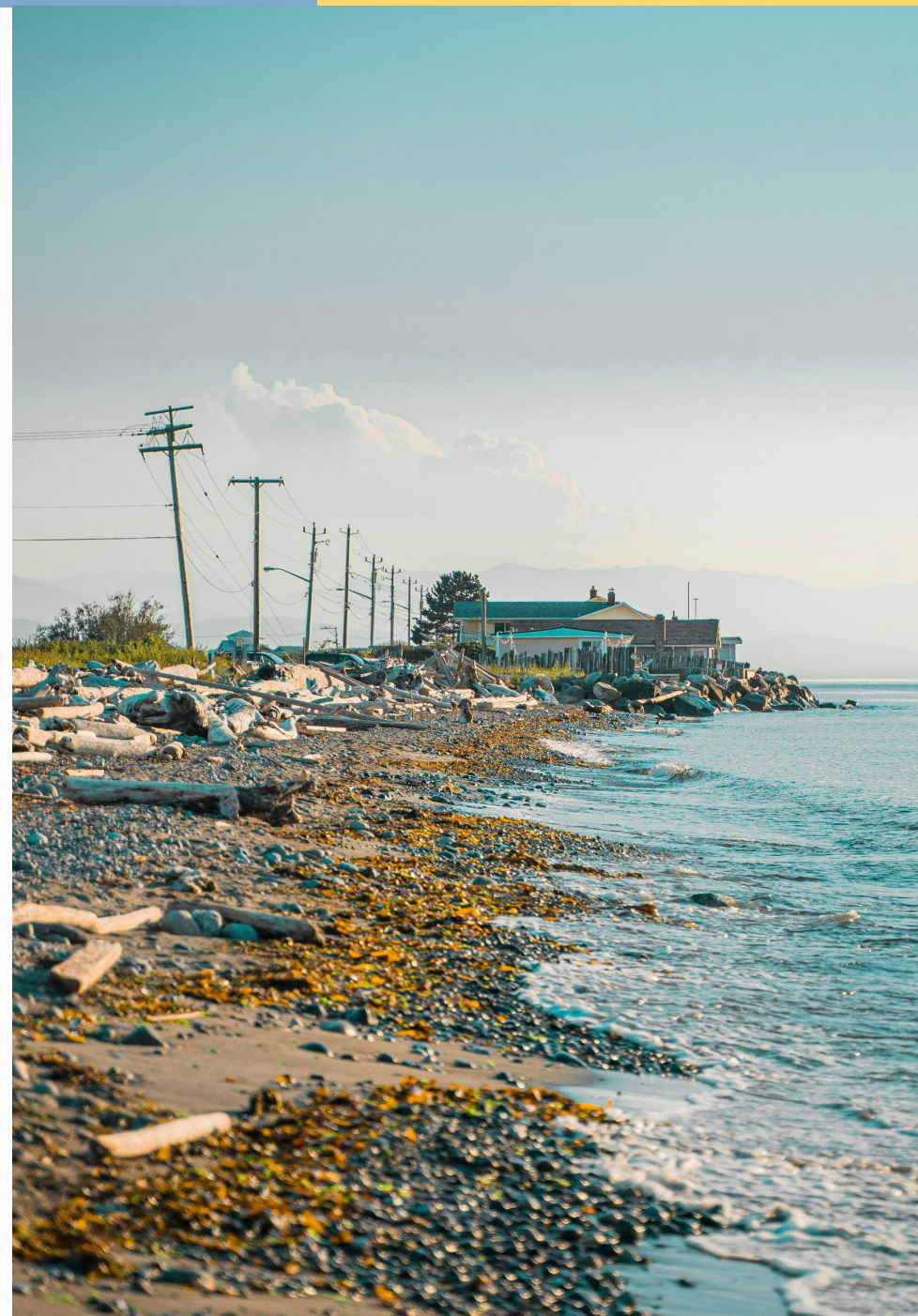
- Meeting is being recorded.
- Slides and recording will be posted on electricity forum page.
- Ecology will post the aggregated requests for feedback (3/7) morning.
- Submit written comment, until 11:59 p.m. PT on Apr. 4, 2025

Ecology staff introductions

- Jihan Grettenberger – Facilitator, Cap-and-Invest Outreach Specialist
- Surabhi Subedi – Technical host, Climate Rulemaking Planner
- Camille Sultana – Cap-and-Invest Environmental Planner
- Andy Hayes – Cap-and-Invest Policy Section Manager
- Eli Levitt – Emissions Reporting & Verification Section Manager

Goals for forum and written feedback

- Illustrate Ecology understanding of centralized electricity markets (CEMs) and potential interactions with the Cap-and-Invest Program
- Facilitate discussion of potential reporting and compliance obligation outcomes for electricity imported via CEMs
- Promote common understanding of electricity importer framework, CEMs, and potential interactions amongst all parties
- Identify areas for development (guidance, rule, Ecology-interested parties engagement)



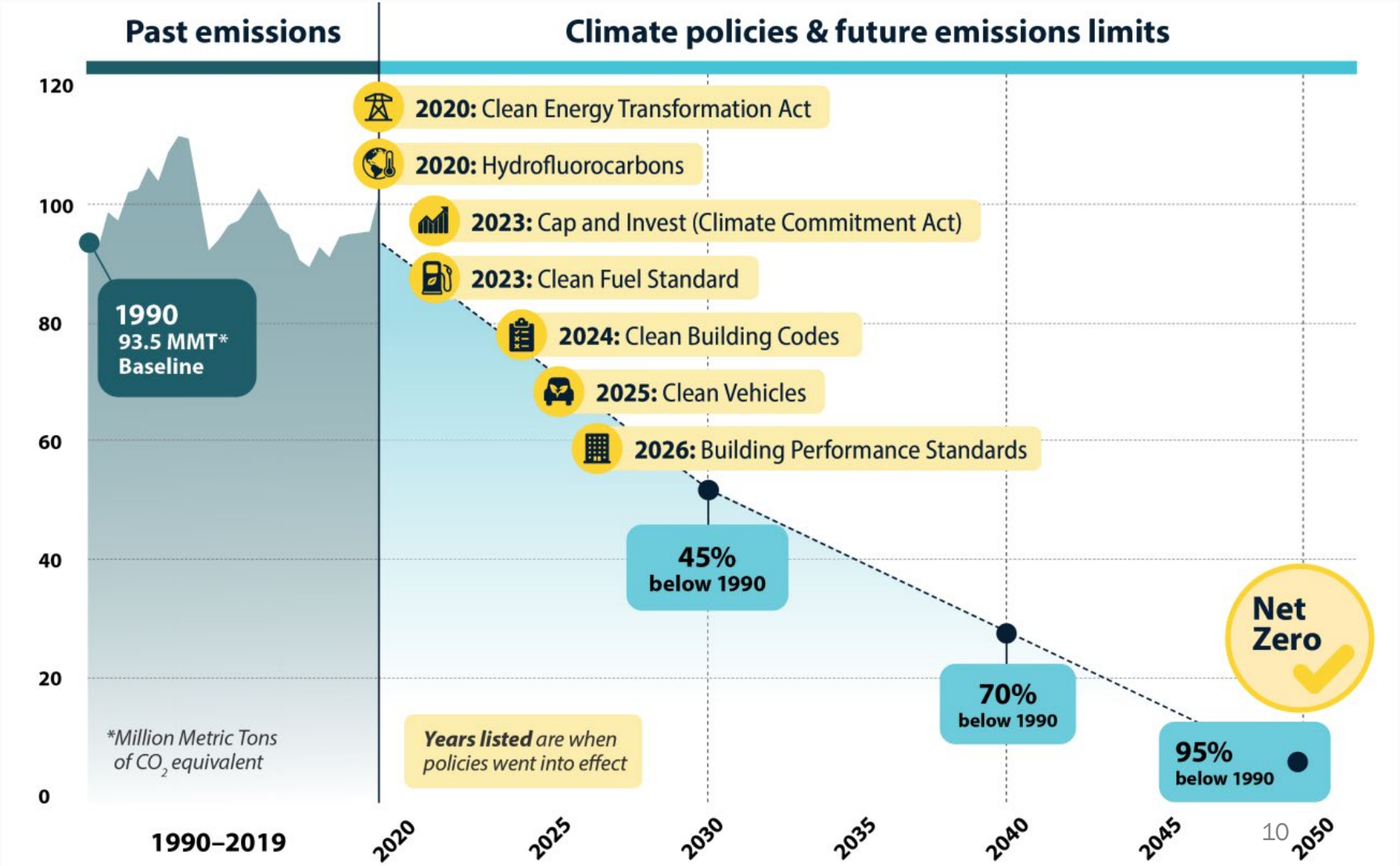
Agenda

1. Overview Cap-and-Invest, electricity imports, centralized electricity markets
2. Centralized Electricity Markets (CEMs) and e-tags
3. WA Greenhouse Gas Zone and imported electricity framework
4. Unspecified imports from CEMs
5. Emissions leakage

WA statutory greenhouse gas emissions limits

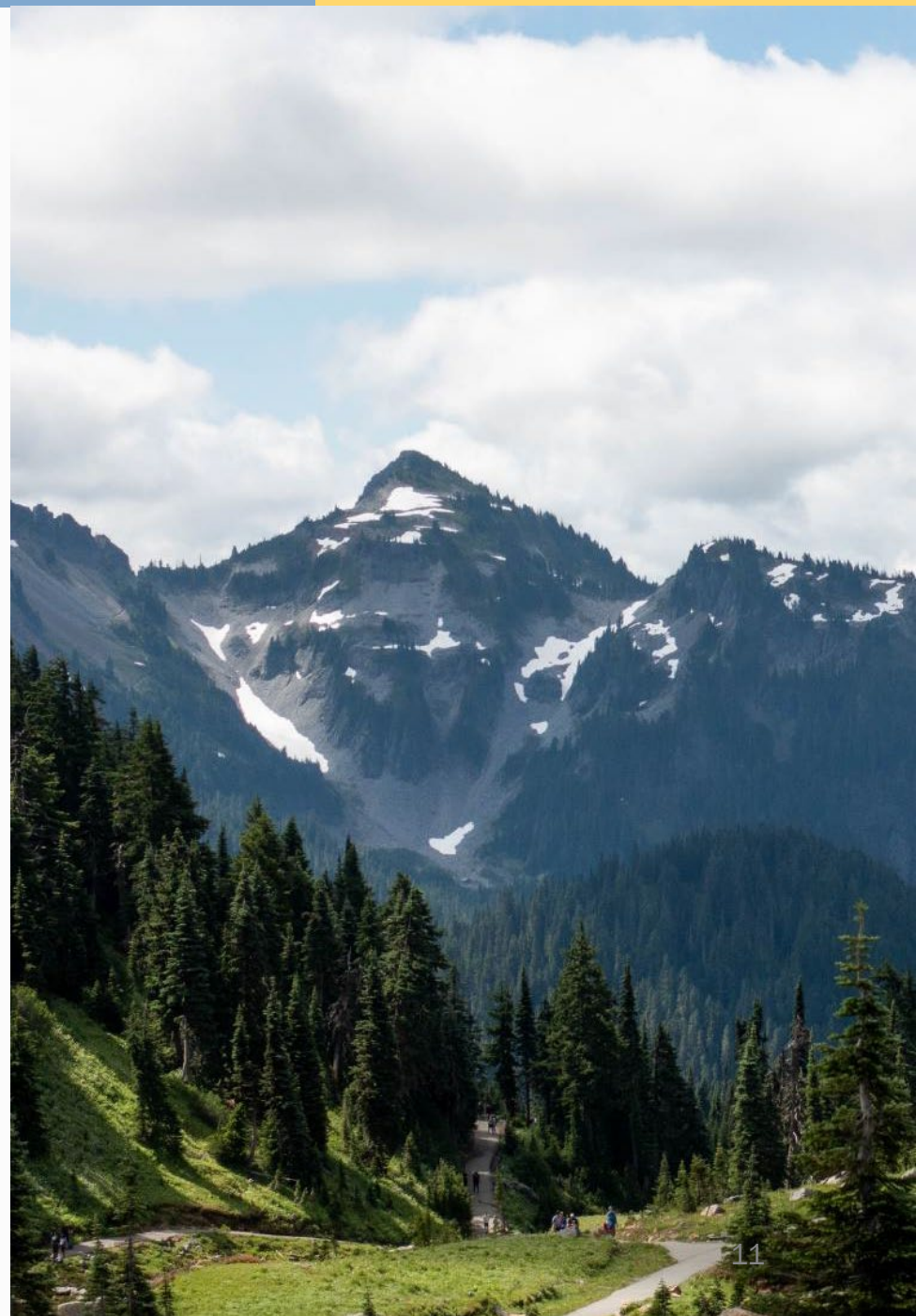
HB 2311 (2020)

- 2030: 45% below 1990
- 2040: 70% below 1990
- 2050: 95% below 1990 and net-zero emissions



Cap-and-Invest overview

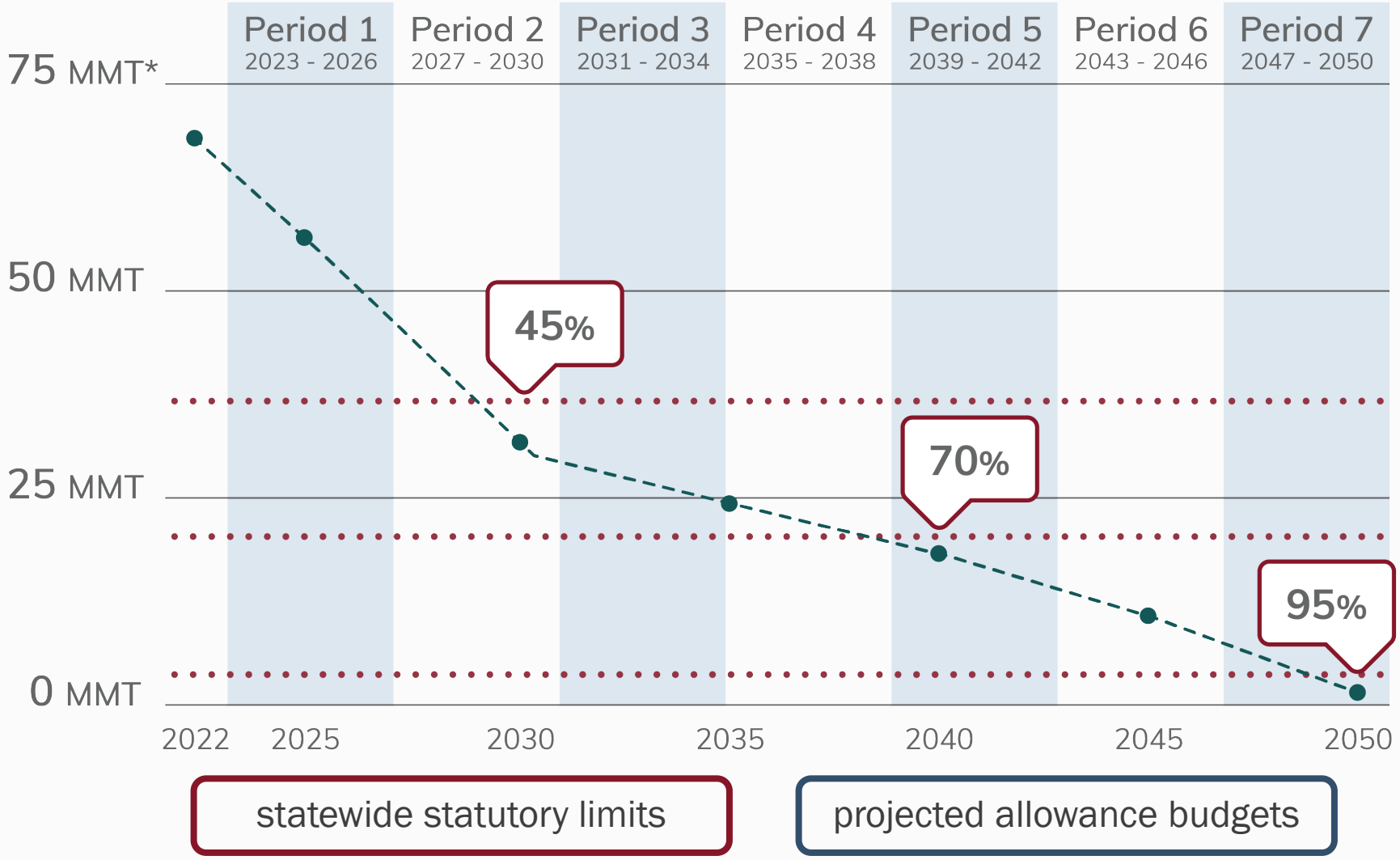
- Authorized by Climate Commitment Act (2021)
- Establishes a declining, economy-wide cap on greenhouse gas (GHG) emissions
  - Aligned with statewide statutory emission limits
  - Covers ~75% of statewide emissions
  - Cap set by annual allowance budget
  - 1 allowance = 1 metric ton carbon dioxide equivalent
- Covered entities must obtain allowances/offsets equal to annually reported covered emissions



Cap-and-Invest is designed to support substantial GHG reductions necessary to meet the State's short and long-term emission limits.

Projected Allowance Budgets Over Time

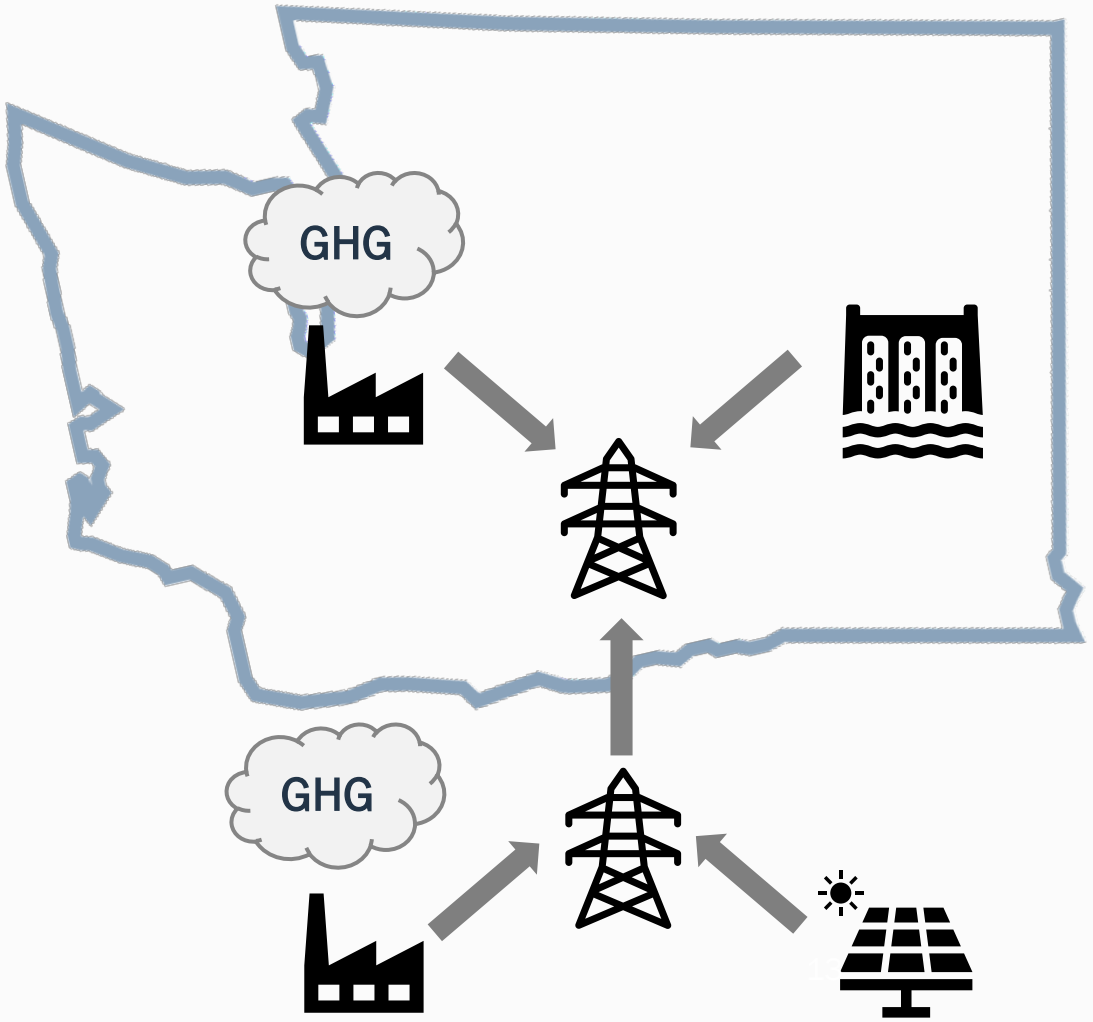
*million metric tons of CO2 equivalent



Electricity coverage under Cap-and-Invest

CCA directs Cap-and-Invest Program to cover both:

- In-state electricity generation
  - Facilities within WA state borders
- Imported electricity into WA
  - Electricity generated outside the state of Washington with a final point of delivery within the state



Limits emissions leakage by promoting consistent incentives for all generation serving Washington load.

In-state electricity generation overview

- Emitting electricity generation facilities within WA state borders are treated as “facilities”
- All on-site facility greenhouse gas emissions reported per WAC 173-441-120
- Compliance obligation for reported facility emissions, except exemptions (173-446-040(2)) and specific liquid fossil fuels covered at supplier
- Cap-and-Invest Program coverage
  - Coverage threshold: ≥ 25,000 $MTCO_2e$ annual emissions
  - Fossil fuels supplied to facilities below the 25,000 $MTCO_2e$ threshold are covered upstream at the fuel supplier.

Imported electricity overview

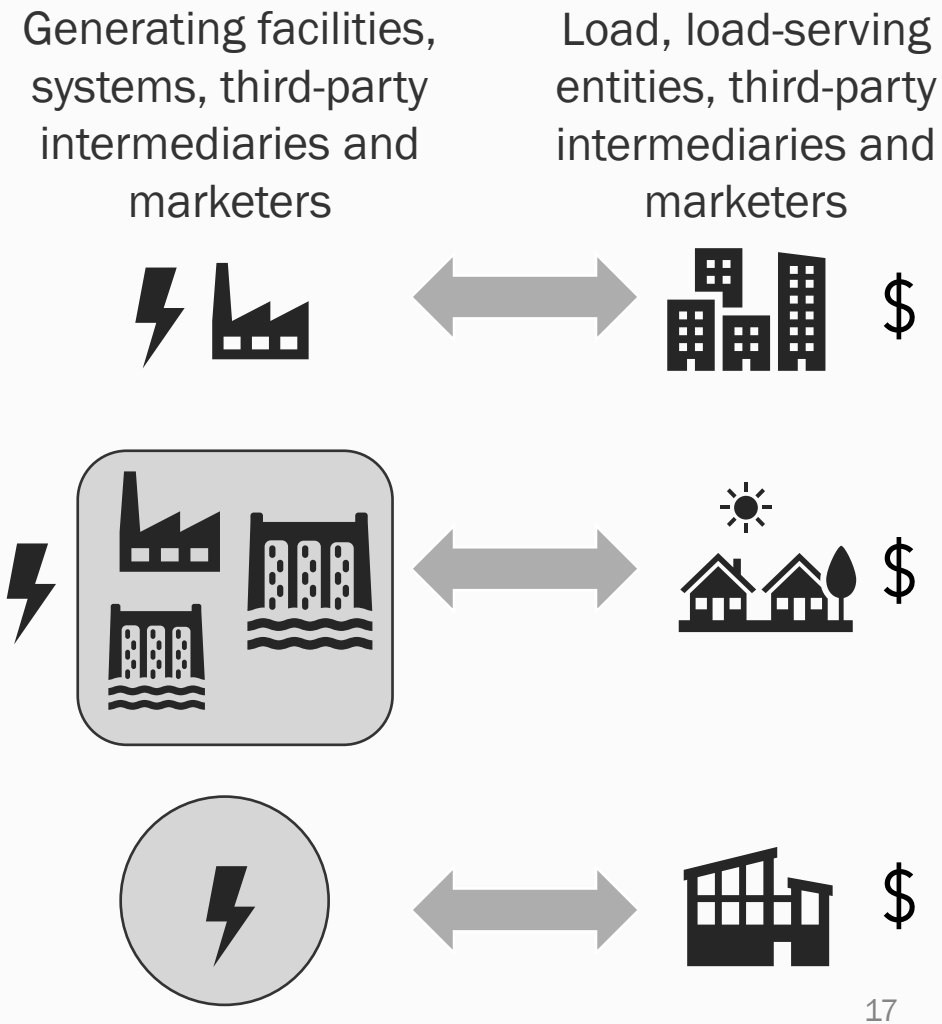
- "Imported electricity" means electricity generated outside Washington state with a final point of delivery within the state.
- Responsible electricity importer follows first jurisdictional deliverer (FJD) approach
  - FJD is entity responsible for placing power onto Washington grid
- Emissions associated with MWh electricity imports reported per WAC 173-441-124
- Reporting and compliance obligations based on delivery of electricity by generation source
- Cap-and-Invest Program Coverage (emission years 2025+)
  - Any entities with >0 $MTCO_2e$ reported emissions associated with unspecified electricity imports
  - ≥ 25,000 $MTCO_2e$ annual emissions, for any entities who only import specified electricity and/or qualifying unspecified electricity purchased from BPA ((RCW 70A.65.080(c)(i)(C))

Specified and unspecified imports

- Specified imports
  - Meet requirements for specified imports in 173-441-124
  - Emissions calculated from source-specific emission factors (EF)
  - Types of specified sources
    - Specific facilities or generating units
    - Asset controlling supplier (ACS) system
    - Multi-jurisdictional retail provider system (retail WA sales reported as specified import)
- Unspecified imports
  - Do not meet specified import requirements in 173-441-124
  - Emissions calculated using default EF (0.428 MT CO2e/MWh)

Current reporting rules centered around bilateral transactions (WAC 173-441-124)

- Bilateral electricity transactions
  - Short and long-term agreements for wholesale power between two parties
  - Supply could be from specified facility, specified system, or unspecified
- Identification of generation source and electricity importer typically aided by data in e-tag
- E-tag: Energy tag representing transactions scheduled to flow between or across BAAs and to and from locations listed in an affiliated registry

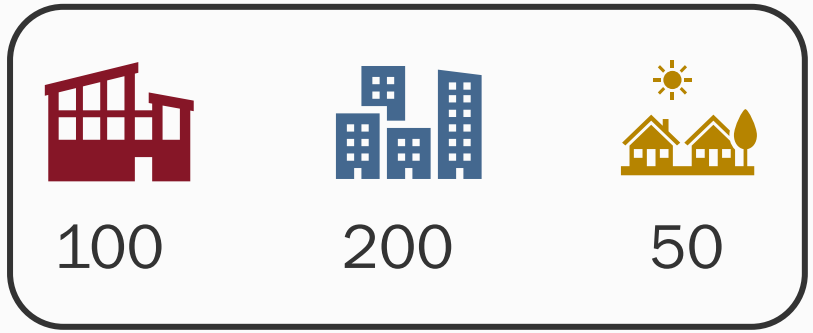


Centralized electricity markets (CEMs) overview

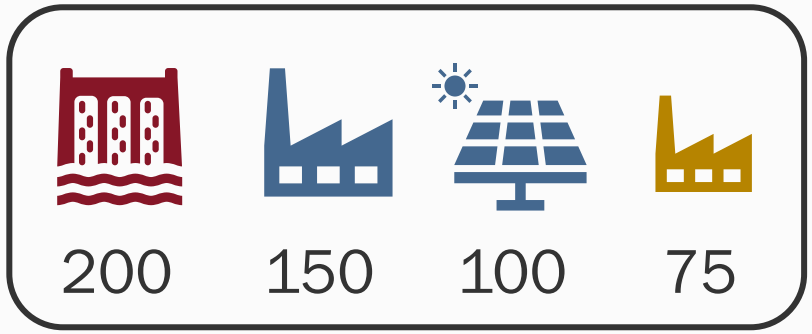
- Enables pool of generation resources to efficiently meet load across the market footprint
- Resources provide bids ($/MWh) for which they are willing to generate electricity
- Participating load pays for supply and generation resources are paid for output based upon marginal cost of meeting load as determined by market optimization
- Specific loads or load-serving entities do not pay and are not “matched” to specific generation resources by the market

Simple CEM example

Load and generation resources are pooled

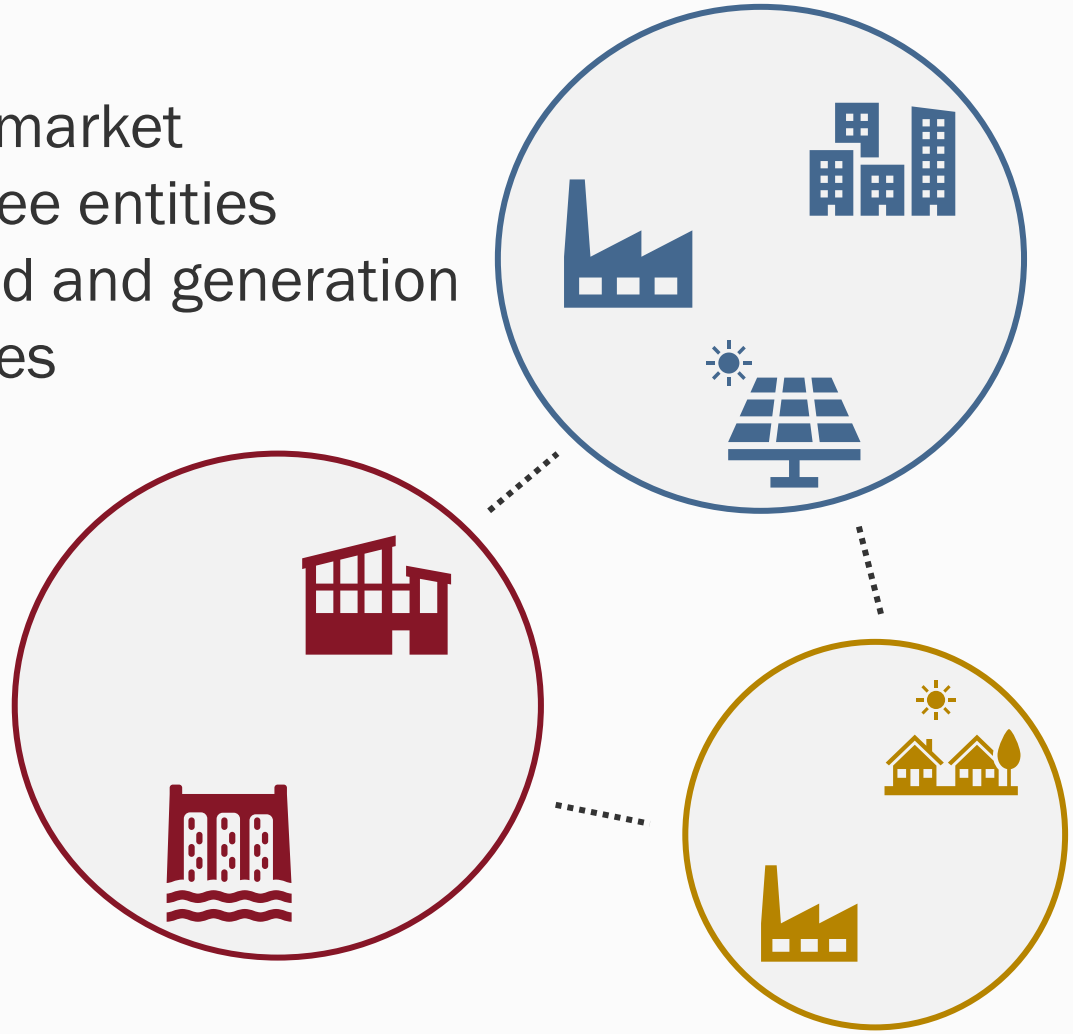


Total market load
350 MW



Total market generation resources
525 MW

Simple market
with three entities
with load and generation
resources



Simple CEM example

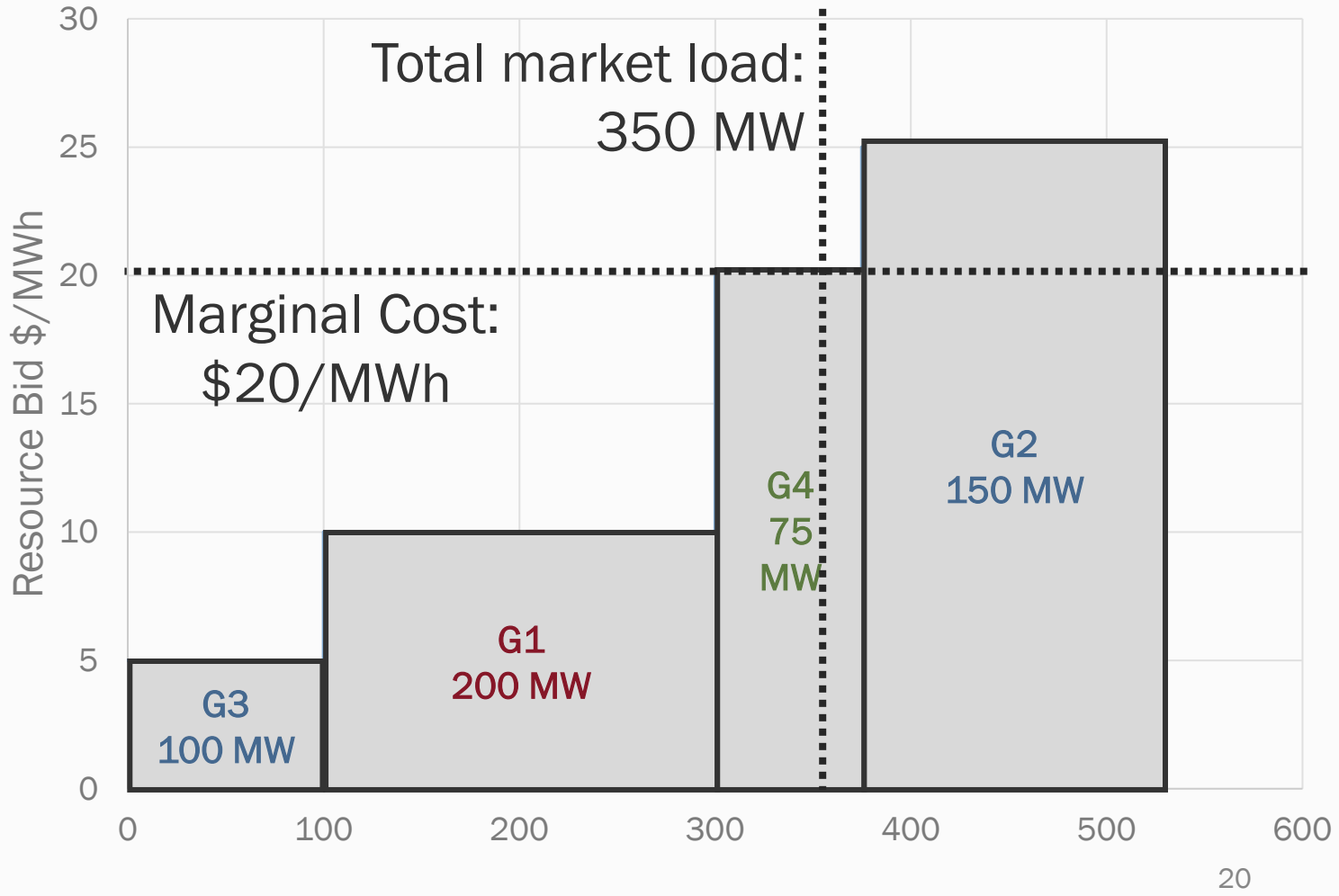
Optimization incents least-cost dispatch

100	200	50

Total market load
350 MW

G1	G2	G3	G4
200	150	100	75

Total market generation resources
525 MW



CEMs and greenhouse gas (GHG) pricing programs

- CEMs can incorporate GHG pricing regulations into optimization
- GHG Zone: Identified load and resources within a CEM subject to GHG pricing regulation. Also known as “GHG Pricing Zone” or “GHG Regulation Area”.
- Resources within GHG Zone may include GHG regulation compliance costs in bid
- Non-GHG Zone generation resources can voluntarily opt-in to serve GHG Zone
  - Submit a GHG bid adder: Includes $/MWh reflecting the resource’s costs to comply with the GHG pricing regulation
- Market optimizes resource dispatch to serve both GHG zone load and non-GHG zone load given constraints
  - GHG bid adder included when considering what non-GHG zone generation is economic to attribute to GHG Zone
  - GHG bid adder not included when considering what is economic to serve the non-GHG zone
- Optimization identifies electricity from non-GHG zone generation resources that is attributed or deemed to GHG zone

Centralized electricity markets in WA

- Real-time market currently operating in WA
  - Western Energy Imbalance Market (WEIM) operated by CAISO
  - Participating BAs in WA: Avista, BPA, Avangrid, PSE, SCL, Tacoma, Pacificorp
  - Balancing energy serves relatively small portion of total WA load
- Day-ahead markets operation in near future
  - Extended Day-Ahead Market (EDAM) operated by CAISO
    - Expected launch Spring 2026
    - Pacificorp committed participant
  - Markets+ (M+) operated by SPP (includes day-ahead and real-time functions)
    - Expected launch 2027
  - Could serve high percentage of WA load: All load and resources within participating BAAs part of market optimization
- Potential WA entity participation: WEIM only, WEIM-EDAM, M+, no CEM participation

CEMs and electricity imports: Current rule status

- Electricity markets rulemaking
  - Updates to WAC 173-441 and WAC 173-446 adopted December 2024
  - Established framework to account for specified imports through CEMs

- Further items for development
  - Potential e-tag and CEMs reporting interactions (stakeholder discussion, potential guidance or rule)
  - Establishment of “WA GHG Zone” within CEMs (market operator-ECY-BA engagement)
  - Accounting for unspecified electricity imported through CEMs (rule)
  - Accounting for risk of emissions leakage in CEMs (rule)

Electricity Imports in Cap-and-Invest: Considerations

- Impart appropriate incentives to achieve state GHG emission limits
- Consistently and appropriately assess emissions and compliance obligations
- Consider risk for emissions leakage
- Cohesive across bilateral transactions and various CEMs designs
- Compatibility with potential linkage partners
- Implementation and reporting feasibility
- First-jurisdictional approach

Program goal

Cohesive and durable approach for all imported electricity serving Washington load, in support of state decarbonization mandates

Discussion today

- Topics
  - Topic 1: Potential e-tag and CEMs reporting interactions
  - Topic 2: Establishment of “WA GHG Zone” within CEMs
  - Topic 3: Accounting for unspecified electricity imported through CEMs
  - Topic 4: Accounting for risk of emissions leakage in CEMs
- For each topic
  - Staff presentation
  - Review request for written feedback
  - Open discussion period

Topic 1: Potential CEMs and e-tag greenhouse gas reporting interactions

Electricity imports and attribution to WA by CEMs: Specified imports

- Electricity Markets Rulemaking established framework to account for specified imports through CEMs
  - Electricity from specific non-GHG zone generation resources that is attributed to WA within a CEM is treated as a specified import.
  - “Deemed market importer” is entity responsible for emissions associated with imported electricity attributed to Washington within a CEM (for resource-specific attribution).
  - Deemed market importer means a market participant that successfully offers electricity from a resource or system into a CEM and the electricity is deemed or attributed to be serving WA load by the methods put in place by the CEM market operator and approved by Ecology. For WEIM and EDAM the deemed market importer is the participating resource scheduling coordinator.
- Adopted framework accounting for specified imports through CEMs consistent with California Cap-and-Trade Program.
- Resource-specific attribution for WA will be enabled in WEIM/EDAM in 2026 and M+ upon launch.

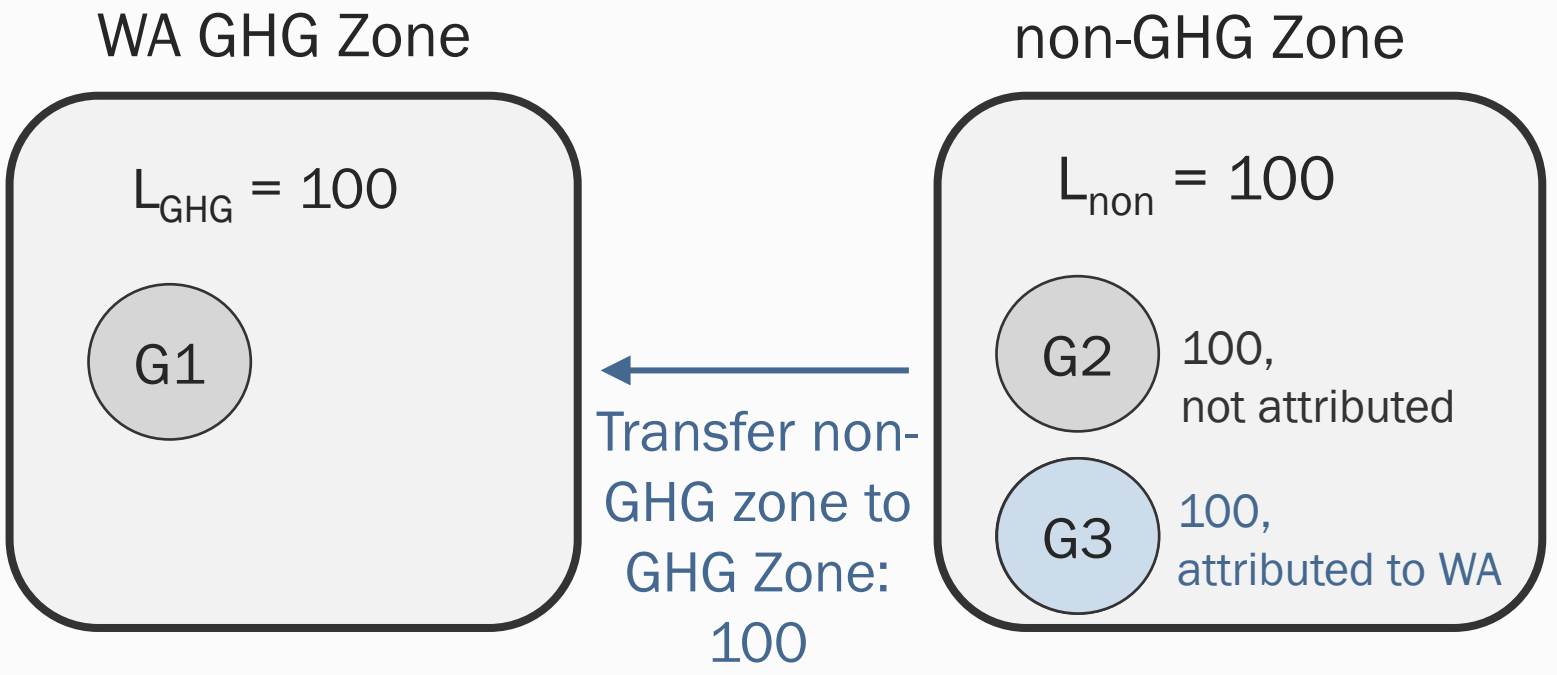
Simple CEM specified import example (1)

Market Optimization

- Attributes 100 MWh from G3 to WA GHG Zone

Resulting Cap-and-Invest reporting and compliance

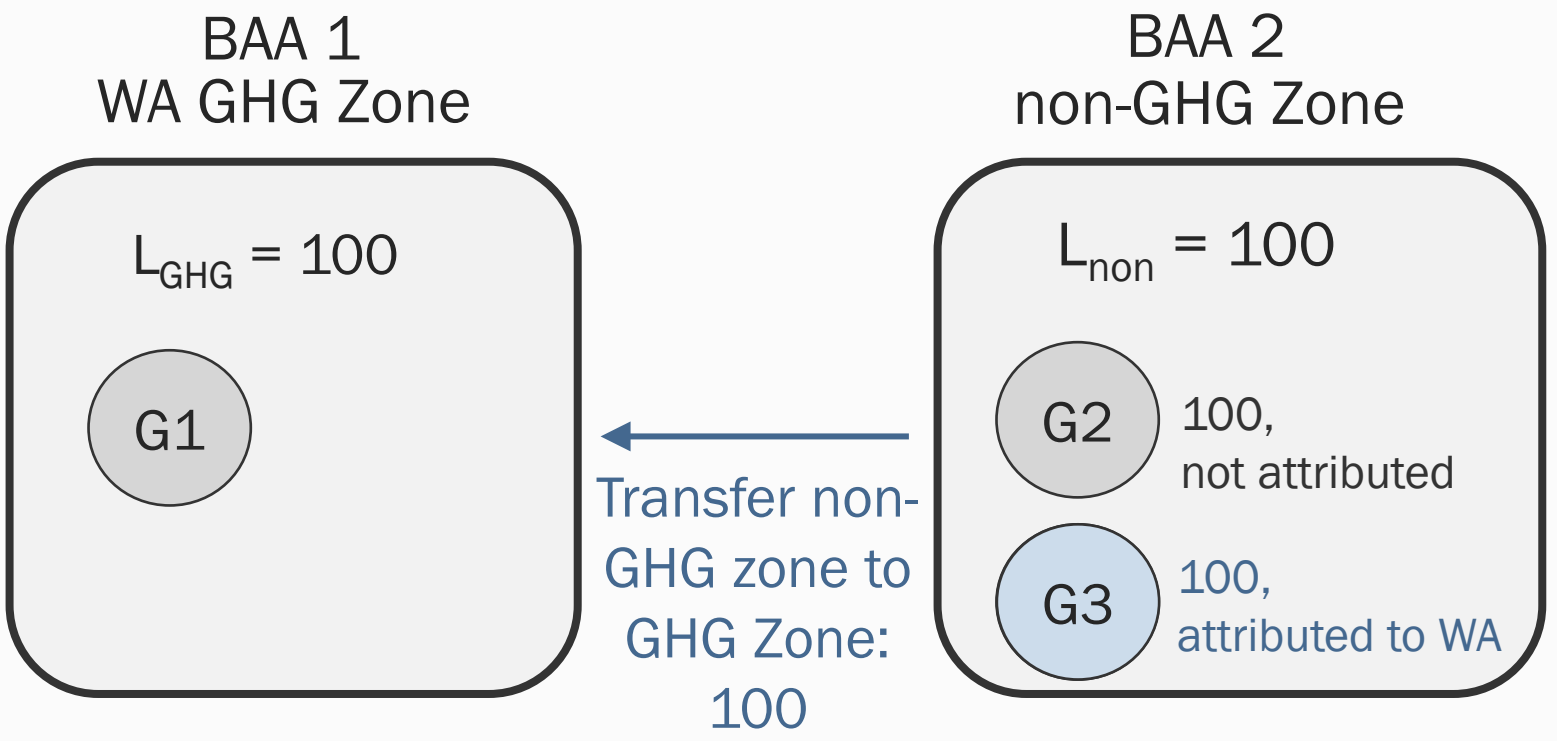
- Market participant that offered G3 into CEM responsible for specified electricity import of 100 MWh from G3
- Associated emissions = 100 MWh x G3 EF
- G3 EF determined by standard process for specified resources



Simple CEM specified import example (2)

Market Optimization

- Attributes 100 MWh from G3 to WA GHG Zone
- Transfers 100 MWh from BAA 2 (non-GHG Zone) to BAA 1 (WA GHG Zone).



CEMs and e-tags

Ecology understanding to-date

- E-tags are required by NERC to document energy imports or exports between BAAs (interchange).
- E-tags are not automatically created as a result of CEM operations or dispatch.
- E-tags are not created by the market operator in their role as a CEM operator.
- CEM results which involve transfers between BAAs, require market participants to create e-tags.

CAISO resource on interchange scheduling and e-tags

Central question: General e-tag interactions

Given use of e-tags within WAC 173-441 to support reporting of electricity imported via bilateral transactions, is there potential for electricity imported via a CEM to be “double counted” due to creation of e-tags accounting for transfers between BAAs scheduled by a CEM?

General assumptions

- CEM GHG zone may be made up of multiple BAAs. A BAA may be entirely within GHG zone or may be partially within GHG zone.
- Dependent on load and constraints, market optimization may attribute non-GHG zone resource generation to GHG zone.

Requested feedback: Day-ahead CEMs and e-tags

Are the following assumptions and outcomes accurate?

For BAAs participating in a day-ahead CEM (WEIM-EDAM, M+)

Assumptions

- All generation resources and load within BAA are registered, scheduled, and settled through the CEM.
- Any energy transferred into a BAA is a result of CEM schedules or dispatch.

Reporting and Cap-and-Invest Outcomes

- All imported electricity for BAAs participating in a day-ahead CEM will be determined based on market attribution to the GHG-zone.
- Market attribution of MWh from non-GHG zone resources to GHG zone determines MWh of specified imports and entity responsible for reporting and associated emissions.
- E-tags should not be used to report imports for any electricity sinking to a participating BAA. Doing so would result in double-counting of imported electricity delivered through the CEM.

Requested feedback: Real-time only CEMs and e-tags

Are the following assumptions and outcomes accurate?

For BAAs participating only in a real-time CEM (WEIM only)

Assumptions

- Only "balancing" energy is scheduled and dispatched through the CEM.
- A participating BAA's load is primarily met through scheduled generation and transfers made outside of the CEM.
- Transfers into the BAA made outside the CEM will be documented by e-tags.

Reporting and Cap-and-Invest Outcomes

- For BAAs participating only in a real-time CEM, only a fraction of imported electricity may be determined based on market attribution to the GHG-zone.
- Market attribution of MWh from non-GHG zone resources to GHG zone determines MWh of specified imports and entity responsible for reporting and associated emissions.
- E-tags may also be necessary to support reporting of electricity imports which occur outside the CEM for any electricity sinking to a participating BAA.

Requested feedback: CEMs and e-tags

Central question

Given use of e-tags to support reporting of electricity imported via bilateral transactions, is there potential for electricity imported via a CEM to be "double counted" due to creation of e-tags accounting for transfers between BAAs scheduled by a CEM?

Additional questions

- Do the stated assumptions and outcomes hold if market participants bid in resources external to the market footprint, also referred to as import interchange transaction offers?
- Should the lesser-of-analysis (WAC 173-441-124(3)(b)(ii)(B)(VI)) be applied to imported electricity from a specific resource that is attributed to WA by a CEM? Does this depend on whether the BAA participates in a day-ahead CEM or a real-time only CEM?
- Must market participants create e-tags for both day-ahead and real-time market awards that result in imports/exports between BAAs?
- Are e-tags documenting transfers resulting from CEM awards clearly identifiable as associated with a CEM result or award?

BREAK

Topic 2: WA Greenhouse Gas Zone and imported electricity framework

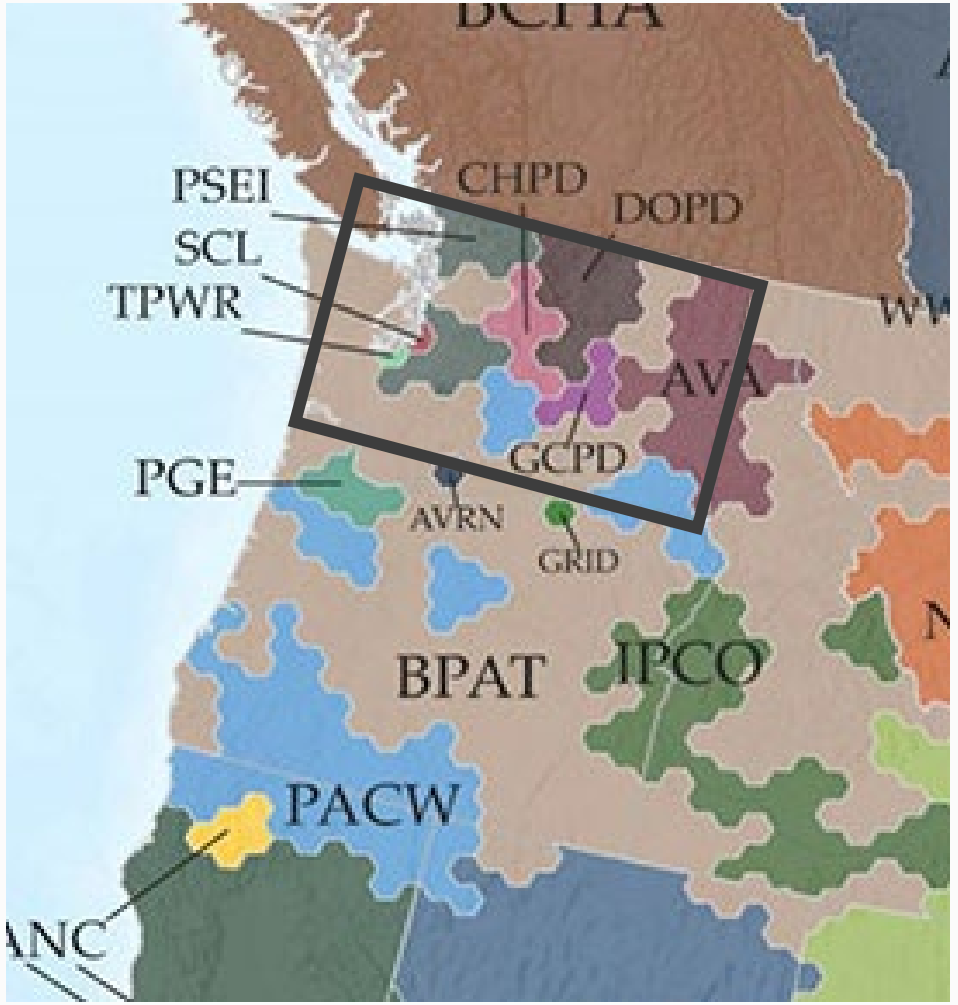
Greenhouse Gas Zone within a CEM

- GHG Zone: Identified load and resources within a CEM subject to GHG pricing regulation. Also known as “GHG Pricing Zone” or “GHG Regulation Area”.
- Identifying GHG Zone generation resources
  - CEMs can model specific generation resources.
- Identifying GHG Zone load
  - Load modelled in a CEM may represent load from a broad area (e.g. BAA) or multiple meter data submittal locations. Associating load with a GHG zone may be technically or practically complex, depending on available metering and/or methods to separate GHG from non-GHG zone load.
- CA GHG Zone currently implemented in WEIM, reflecting CA Cap-and-Trade Program.

Defining WA under imported electricity framework (WAC 173-441-124)

- Considerations for WA complexity
  - Balancing authority areas (BAAs) located entirely within WA
  - Federal power marketing administration
  - Multi-state BAAs and retail providers

- Discussion in
  - Stakeholder white paper
  - Ecology response to white paper



Defining WA under imported electricity framework: In-state facilities

Inside Washington

- Emitting electricity generation facilities within WA state borders are treated as “facilities” for under GHG Reporting (WAC 173-441) and Cap-and-Invest Program (WAC 173-446)

Outside Washington

- Any electricity from BPA’s system is considered an electricity import and not electricity generated in WA (173-441-124(2)(q)(iii))

Defining WA under imported electricity framework: BAAs located entirely within WA

Inside Washington

- Any energy from outside WA with final delivery to a BAA located entirely within WA is considered an import (WAC 173-441-124(2)(f)(i)).
- BAAs located entirely within WA state borders are treated as “within WA” for purposes of defining imported electricity.

Defining WA under imported electricity framework: Bonneville Power Administration (BPA)

Inside Washington

- Electricity sunk at designated scheduling points of WA load within BPA's BAA is considered to have sunk within WA (173-441-124(2)(f)(viii))
- Electricity sold to WA consumer-owned utility preference customer's or WA direct service industrial customer under 1980 Power Act (173-441-124(2)(f)(vi))
- In-state third-party resources within BPA's BAA, but that are not part of BPA's generation system, are considered within WA

Outside Washington

- Electricity from BPA's system is considered an electricity import and not electricity generated in WA (173-441-124(2)(q)(iii))
- Electricity purchased by BPA and sunk to its system, is not considered to have sunk within WA, but is included in calculation of BPA's ACS EF (173-441-124(3)(e)(ii))

Defining WA under imported electricity framework: Multi-state BAAs and retail providers

- Two multi-state BAAs that are also multi-jurisdictional retail providers (MJRP) within WA (Avista and PacifiCorp)
- MJRP WA retail sales served by the MJRP system (excluding in-state facilities) are considered imported power (WAC 173-441-124(2)(q)(v)).
- Generally, electricity sunk to an MJRP system is not directly reported by transaction as an import into WA.
- Instead, MJRP WA retail sales served by imported power and associated emissions are calculated separately by each MJRP based on system data. (173-441-124(3)(b)(iv))
- Responsible electricity importer for electricity sunk at WA scheduling points within a multi-state BAA, but not associated with the multi-state BAA system or retail load, is not currently identified within 173-441-124

Defining WA under imported electricity framework: Multi-state BAAs and retail providers

Key Definitions

- Electricity Importer (WAC 173-441-124(2)(f)(iv)): For electricity from facilities allocated to serve retail electricity customers of a multijurisdictional electric company, the electricity importer is the multijurisdictional electric company
- Imported Electricity (WAC 173-441-124(2)(q)(v)): For a multijurisdictional electric company, "imported electricity" means electricity, other than from in-state facilities, that contributes to a common system power pool. Where a multijurisdictional electric company has a cost allocation methodology approved by the Washington state utilities and transportation commission, the allocation of specific facilities to Washington state's retail load will be in accordance with that methodology.

Defining WA under imported electricity framework: Multi-state BAAs and retail providers

Inside Washington

- WA retail load served by an MJRP system is considered inside Washington
- Electricity sunk at WA scheduling points within a multi-state BAA, but not associated with the multi-state BAA system or retail load, is inside Washington. The responsible electricity importer is not currently identified within 173-441-124.

Outside Washington

- Electricity from MJRP system, excluding facilities located within WA, is considered an electricity import and not electricity generated in WA.
  - MJRP system imported power and associated emissions serving WA retail load are calculated separately by each MJRP based on system data (173-441-124(3)(b)(iv)))
  - Calculation allocates specific facilities to WA retail load consistent with UTC approved cost-allocation method

Defining WA under imported electricity framework: Multi-state BAAs without load in WA

Outside Washington

- Generally, electricity sunk to a multi-state BAA system with no load in WA is not considered imported into WA.

Imported system power: Reporting and emissions

- Electricity imports and emissions from BPA and MJRPs calculated from reported system supply and annually updated system emission factor
- System emission factors based on annually reported system generation and emissions from owned facilities and wholesale purchases and sales
  - Wholesale purchases and sales primarily specified and unspecified bilateral transactions documented by e-tags

MJRP system reporting

- Each MJRP annually reports emissions associated with imported system power serving WA retail load (173-441-124(3)(b)(iv)))
  - Calculation: WA retail sales served by imported MJRP system power (MWh) x MJRP System EF (MT CO_2e/MWh)
  - Example: In 2025, MJRP 1 would report CY 2024 system data to determine a) total 2024 WA retail sales served by imported power and b) 2024 MJRP system EF.
  - Reported as specified import emissions using MJRP System EF in EPE reporting tool
- MJRP system EF is out-of-state system EF; excludes WA-generation
- MJRP EF only used in MJRP's own electricity importer reporting.

BPA ACS system reporting

- BPA currently only registered ACS in Cap-and-Invest Program.
- ACSs annually submit third-party verified reports detailing system power and emissions for the prior calendar year (CY) (WAC 173-441-124(3)(e))
- Ecology annually calculates ACS EF based on submitted annual reports (WAC 173-441-124(3)(b)(iv))
- The most recent ACS EF is used by responsible electricity importers to determine emissions associated with imports from an ACS system
- Example:
  - 2025: BPA submits ACS report detailing system power for CY 2024.
  - 2025: ECY publishes BPA's updated ACS EF.
  - BPA imports occurring in CY 2026 will be assessed emissions based on the updated ACS EF.
  - Emissions associated with CY 2026 electricity imports from BPA's system are reported by responsible electricity importers in 2027.

Use of system EFs within Cap-and-Invest

- Generation-weighted average system EFs designed to enable Cap-and-Invest Program to determine annual compliance obligations associated with system imports.
- Currently, BPA (as an ACS) and each MJRP has level of control over system EF as they procure resources through bilateral transactions, influence long-term system investments, and have operational control of owned generation.
- Outside of a CEM, the system EF largely does not control system deployment or generation from any specific system resource.

Use of system EFs within Cap-and-Invest

- Generation-weighted average system EFs designed to enable Cap-and-Invest Program to determine annual compliance obligations associated with system imports.
- Currently, BPA (as an ACS) and each MJRP has level of control over system EF as they procure resources through bilateral transactions, influence long-term system investments, and have operational control of owned generation.
- Outside of a CEM, the system EF largely does not control system deployment or generation from any specific system resource.

Central Question: Defining GHG Zone

How should the WA GHG Zone be defined within CEMs and how does this interface with existing reporting frameworks?

Considerations

- Impart appropriate incentives to achieve state GHG emission limits
- Consistently and appropriately assess emissions and compliance obligations
- Cohesive across bilateral transactions and various CEMs designs
- Implementation and reporting feasibility
- *BPA supplies ~30% of power consumed in Pacific Northwest.*
- *PacifiCorp and Avista represent ~10% of retail load within WA*

Requested Feedback: Defining GHG Zone

- How should the WA GHG Zone be defined within a CEM?
- What load and what generation resources should be included in the WA GHG Zone for:
  - BAAs located entirely within WA
  - BPA BAA (multi-state BAA federal power marketing administration)
  - multi-state BAAs that are also multijurisdictional retail providers
  - multi-state BAAs that do not have load in WA

Requested Feedback: Understanding CEMs and BPA interactions

- How are BPA's system generation resources represented in a CEM model? Are distinct generation resources represented at distinct nodes and can be separately scheduled or awarded by a CEM?
- What EF should be used in the GHG bid adder for BPA system energy or generation resources for CEM attribution to the WA GHG Zone?
- What EF should be used to determine Cap-and-Invest compliance obligations for BPA system energy or generation resources attributed to the WA GHG Zone?
- When attribution to the WA GHG Zone is enabled by CEMs, how should BPA system energy and emissions be accounted for within the Cap-and-Invest Program?
  - Should BPA participation in a day-ahead or real-time only CEM impact the utility or calculation of the BPA ACS EF?
  - If BPA participates in a day-ahead CEM, would all energy and emissions associated with BPA system imports to WA be accounted for by attribution of BPA generation to the WA GHG Zone?
  - Would BPA export energy from the CEM to WA customers outside the market footprint?

Requested Feedback: Understanding CEMs and MJRP interactions

- How does an MJRP represent load in a CEM? Should WA retail load for an MJRP be represented as within the WA GHG Zone?
- When attribution to the WA GHG Zone is enabled by CEMs, how should imported MJRP system energy and emissions be accounted for within the Cap-and-Invest Program?
  - Should MJRP participation in a day-ahead or real-time only CEM impact the utility or calculation of emissions associated with imported system power serving WA retail load?
  - If an MJRP participates in a day-ahead CEM, would all energy and emissions associated with MJRP system imports to WA retail load be accounted for by attribution of MJRP generation to the WA GHG Zone?

Topic 3: Unspecified Imports from CEMs

Unspecified imports from CEMs

- WEIM and EDAM: All attribution of non-GHG zone generation to GHG zone will be resource-specific.
- M+: Will enable resource-specific and unspecified attribution of non-GHG zone generation to the GHG zone.
- Unspecified Source Imports under M+
  - Unspecified source imports are not assigned to any specific resource or group of resources.
  - Market optimization economically attributes unspecified source imports to the GHG zone.
  - Unspecified source imports compete with other resources, such as internal GHG zone resources and specified source imports, for attribution to GHG zone load.
  - Optimization applies the Unspecified GHG Adder to all unspecified source imports into the GHG zone.
  - Unspecified GHG adder uses an emission factor set according to a method established by the GHG pricing regulation.

Central Questions: CEMs unspecified imports

- What entity(s) should be responsible for reporting and compliance obligations associated with unspecified source imports attributed to the WA GHG Zone?
- What emission factor should be used to determine the compliance obligation associated with unspecified source imports attributed to the WA GHG Zone?
- What emission factor should be used in the GHG adder for unspecified source imports in the M+ optimization?

Considerations

- Impart incentives to support achievement of state GHG emission limits
- Consistently and appropriately assess emissions and compliance obligations
- Cohesive across bilateral transactions and various CEMs designs
- Implementation and reporting feasibility

CEMs unspecified imports discussion to-date

- CEMs unspecified imports discussed in electricity markets rulemaking
- No CEMs unspecified imports provisions adopted in rulemaking.
- Ecology proposal in October 2023 draft rule language
  - Market operator is responsible "electricity importer" for unspecified imports from the CEM if no other entity assigned by market operator
  - Ecology would annually calculate and publish an unspecified EF for each CEM based on data submitted by market operator
  - If no data submitted, use 1 MT CO_2e/MWh for CEM unspecified imports
- Stakeholder feedback on CEMs unspecified imports
  - Broad support to identify "electricity importer" and assign compliance obligations to WA load in M+
  - Limited feedback on unspecified imports emission factors

CEMs Unspecified Import EFs: Potential pathways

- Static EF
  - Existing unspecified source EF: 0.428 $MTCO_2e/MWh$
  - Previously proposed CEM “assigned” unspecified EF: 1.0 $MTCO_2e/MWh$
  - Other
- Annually updated EF
  - Calculated by market operator or ECY
  - Based on CEM data from previous year
- Dynamic EF
  - Reflect time dependent grid conditions
  - Could reflect average, residual, or marginal resources
- Other

Requested feedback: CEMs unspecified imports

- Considering potential pathways listed by Ecology
  - What emission factor should be used to determine the compliance obligation associated with unspecified source imports attributed to the WA GHG Zone?
  - What emission factor should be used in the GHG adder for unspecified source imports in the M+ optimization? Should any pathway listed by Ecology be considered?
- If a calculated emission factor is suggested, what data should be used?

Considerations

- Impart incentives to support achievement of state GHG emission limits
- Consistently and appropriately assess emissions and compliance obligations
- Cohesive across bilateral transactions and various CEMs designs
- Implementation and reporting feasibility

Topic 4: Emissions leakage

Emissions leakage discussion to-date

- CEMs emissions leakage discussed in electricity markets rulemaking
  - Proposals and feedback throughout rulemaking
  - Nov 2023 workshop and comment period focused on emissions leakage
- No CEMs emissions leakage provisions adopted in rulemaking
- Significant development of GHG topics in EDAM and M+ in past year by market operators and stakeholders

Requested Feedback: Emissions leakage

- ECY welcomes additional comment on addressing emissions leakage informed by updated understanding or progress in EDAM and M+ market development.
- ECY will provide future opportunity for more feedback on addressing emissions leakage.

Resources

- 2024 Electricity Markets Rulemaking
- WAC 173-441-124 (electricity power entity/electricity importer reporting)
- Stakeholder whitepaper on identifying imports
- Ecology response to whitepaper
- Interim Guidance for Electric Power Entity Reporting
- Asset-controlling supplier (ACS) systems emission factor
- Entity-level reported and covered emissions
- EPE reporting training
  - Recording
  - Slides

Next steps

- Ecology will post the aggregated requests for feedback Friday, March 5 in the morning.
- Submit written comment, until 11:59 p.m. PT on Apr. 4, 2025
- Slides and recording will be posted on electricity forum page.
- Sign up for the Cap-and-Invest electricity forums email list
- Contact Camille Sultana with questions at CCAElectricity@ecy.wa.gov