California ISO

GHG Coordination Working Group

October 19, 2023

New pre-registration process to join meetings

- Pre-registration is required for all future stakeholder meetings in order to receive a link to join the meeting.
  - The link to pre-register is available in the meeting notice and on the ISO calendar.
- A recent update to WebEx disabled the ability to view the list of meeting attendees.
- The new pre-registration process will allow us to provide the list of meeting attendees to stakeholders during the call.

Housekeeping reminders

- This call is being recorded for informational and convenience purposes only. Any related transcriptions should not be reprinted without ISO's permission.
- These collaborative working groups are intended to stimulate open dialogue and engage different perspectives.
- Please keep comments professional and respectful.

Instructions for raising your hand to ask a question

- If you are connected to audio through your computer or used the “call me” option, select the raise hand icon located on the bottom of your screen.
  Note: #2 only works if you dialed into the meeting.
  - Please remember to state your name and affiliation before making your comment.

- You may also send your question via chat to all panelists.

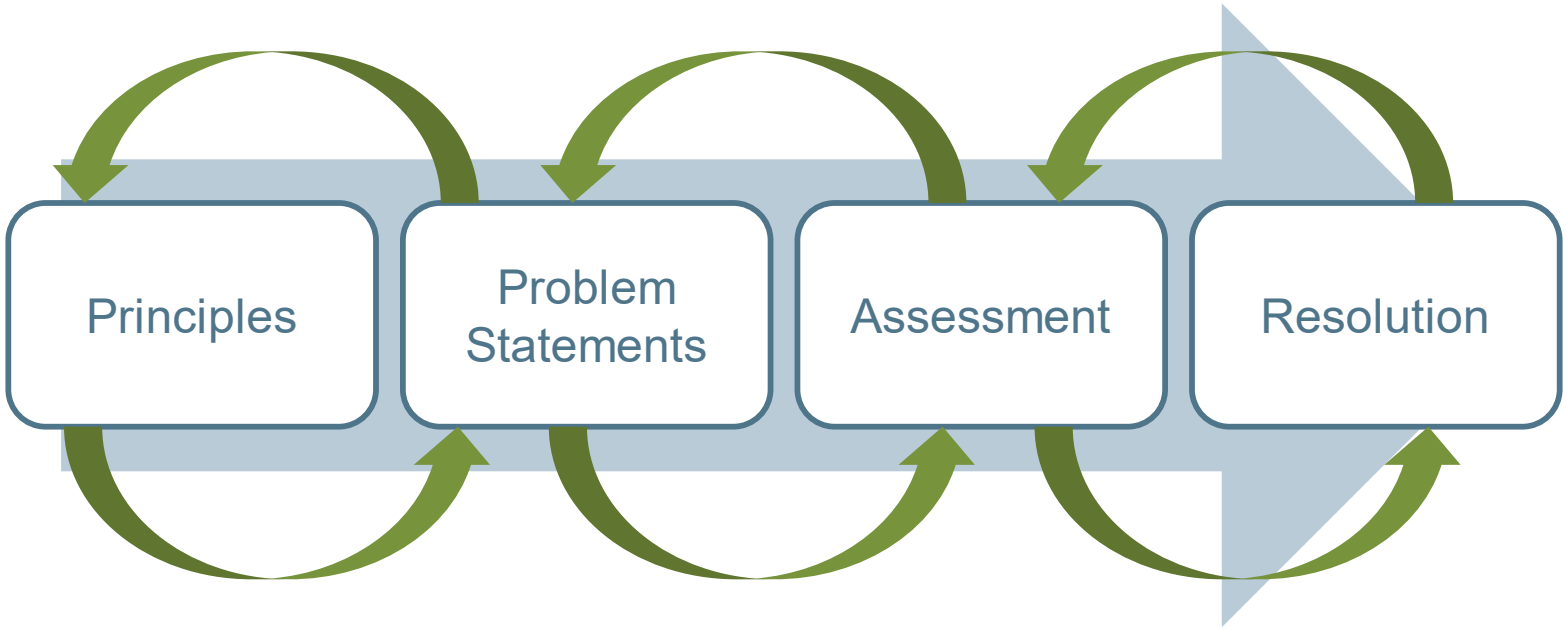
Notice to Participants

***Please be reminded**, Commissioners and advisors from state public utility commissions may be in attendance.*

Agenda

Time	Topic
10:00 – 10:05	Welcome & introductions
10:05 – 10:30	Review of principles
10:30 – 11:55	Problem statement building
11:55 – 12:00	Next steps

Working group progress to date



- Principles **[Done – open for continuous review and feedback]**
- Problem statements **[In progress]**
- Assessment **[Not started]**
- Resolution **[Not started]**

PRINCIPLE REVISIONS

GHG Coordination working group principles

Note: Not every topic will align with all principles listed. The principles are a resource to facilitate assessment of prioritization and potential trade-offs associated with problem statements.

1. Efficiency
2. Transparency
3. Feasibility
4. Non-discrimination
5. Congruency with state policy

Key changes:

- Simplicity has been combined with feasibility
- Jurisdictional roles and responsibilities has been renamed to congruency with state policy

Efficiency

- Efficient dispatch of resources that accurately capture emissions and result in accurate GHG price formation, while minimizing production costs of power generation and costs incurred for allowances in GHG zones. **- REVISED**

Transparency

- Sufficient information exists in order to:
  - Make sufficient bidding and procurement decisions
  - Maintain market compliance with state GHG regulations and programs
  - Accurately perform GHG accounting and reporting
  - Distinguish between available resources and resources that have been scheduled and accounted for
  - Quantify emissions leakage in order to determine if efforts to reduce leakage are warranted - **NEW**
- Market prices, design, and performance are transparent and known to participants
- Costs to market participants beyond the GHG price required for importing electricity into states with price-based programs are transparent and known to participants
- Data is accurate and usable - **NEW**

Feasibility

- Operationally feasible; the market can solve within prescribed timelines
- Feasible implementation
- Feasible timelines; must consider short and long-term prioritizations
- Feasibility should be evaluated through coordination between the ISO and the DMM on the workability of proposed solutions, including modeling and example scenarios where applicable

Added from former simplicity principle:

- Design complexity should be evaluated and considered
- Design should use existing systems and instruments for tracking generation and emissions where available
- Design should leverage existing accounting methods where possible

Non-discrimination

- No inappropriate or unacceptable GHG or cost impact on a non-GHG regulation area or resource
- No penalty under a GHG pricing requirement through unreasonable uplift charges or any dispatch decision that unreasonably increases costs to customers in states with price-based programs
- All resources can compete on a level playing field **- NEW**
- Participants within GHG and non-GHG areas should have equal access to residual supply
- Non-prohibitive; states selling output of GHG pricing to those without GHG costs should not be hindered

Congruency with state policy

- Market design should support or align with state greenhouse gas regulation policies, to the extent practicable
- Coordination with state regulators and stakeholders to identify design and reporting needs required to support state policies and programs

Added from former simplicity principle:

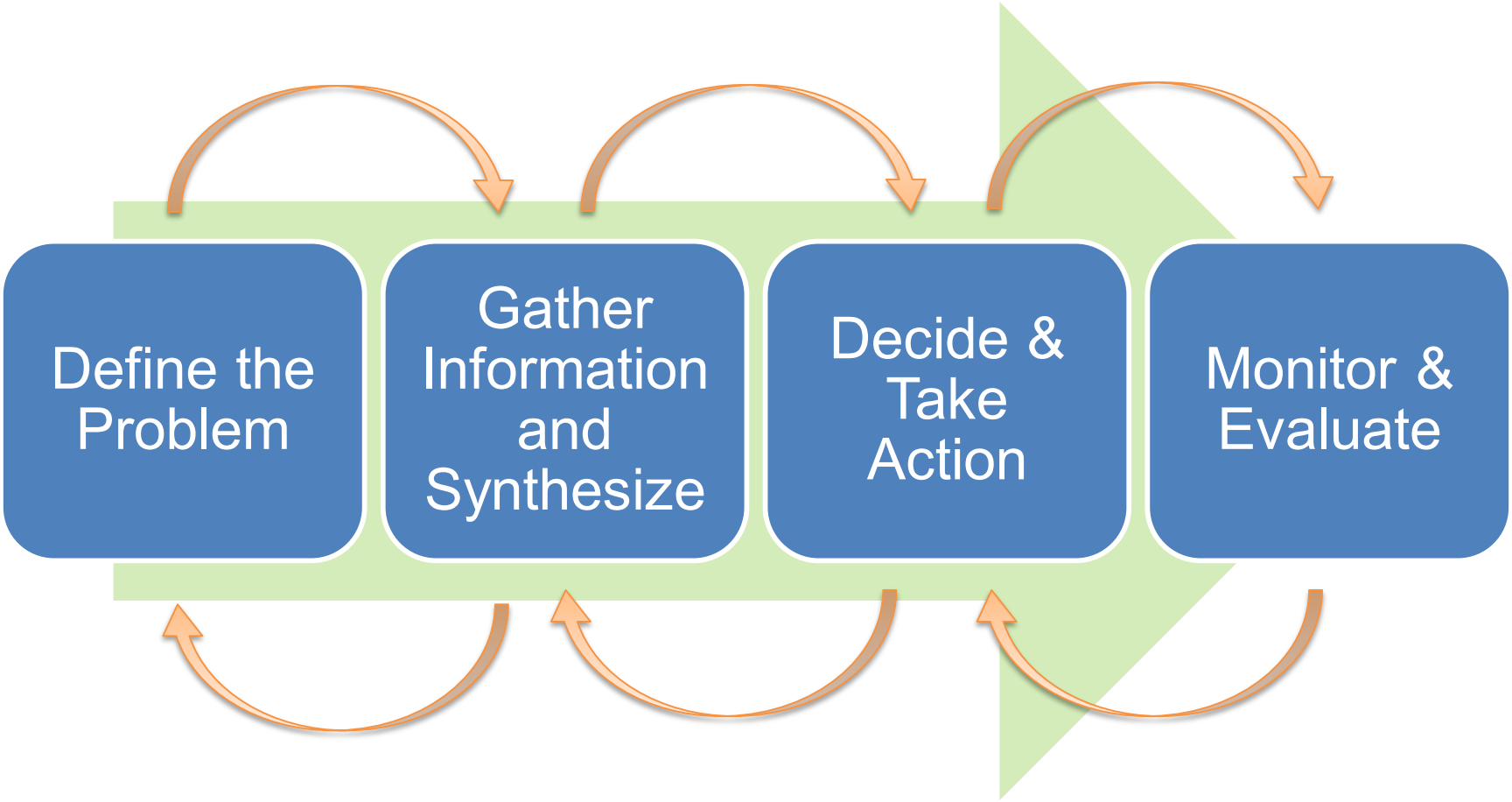
- Design should be broadly applicable, scalable, and accommodate many participants

Additional principles to consider

- Environmental justice
  - Proposed description: Reducing the burden, primarily pollution, of the power system on overburdened communities.
- Durability

PROBLEM STATEMENT BUILDING

Problem statement development is an iterative process



How to build a Problem Statement

What's a problem statement? An issue or challenge related to market policy or processes that impacts market outcomes.

- Problem statements help identify the root cause of issues and facilitate assessment

What makes a good problem statement?

- Identify a root cause in terms of existing market design policy or processes
  - If the root cause is not known:
    - Explore how current market policy and processes reflect principles and support market objectives
    - Determine how these policies and processes may not meet their intended goals
- Determine possible trade-offs associated with principles
- Illustrate how problems create a measurable impact on market outcomes

Key takeaways from 9/13 problem statement building exercise

- Statements should read as a problem rather than a consequence
- Statements should remain neutral and fact-based
- Statements should specify information needed to analyze and monitor the potential problem

PROPOSED PROBLEM STATEMENTS

Market Operations and GHG Design

- **Problem statement #1:** It is unclear if the market correctly identifies available surplus on resources that may be attributed to a GHG zone.

- **Problem statement #2:** The current attribution process still results in secondary dispatch, and the market lacks sufficient transparency into the degree of secondary dispatch occurring as a result.

Market Operations and GHG Design

Problem statement #3: It is unclear if the market has correctly balanced leakage and costs.

- **Proposed sub-problem:**
  - The ISO's least-cost dispatch optimization results in secondary dispatch which does not capture the full emissions and leads to inaccurate price signals.

Market Operations and GHG Design

Problem statement #4: The current price formation does not provide full transparency into the total marginal GHG cost, leading to inaccurate price signals and reduced price transparency.

- **Potential root cause/sub-problem:**
  - Including the GHG costs in the energy bid results in the total marginal GHG cost as the GHG component plus some portion of the SMEC.

- **Potential market outcome:**
  - A lack of transparency of the true marginal cost to serve load.

Market Operations and GHG Design

Action Items:

What analysis and/or review is necessary to facilitate the assessment of problem statements 1-4?

State Coordination

Problem statement #5: GHG attribution in markets creates a risk of double counting of attributed generation in compliance and voluntary retail GHG programs.

- **Potential root cause/sub-problem:**
  - The GHG attribution mechanism is divorced from existing systems for allocating generation and associated emissions to retail load.

- **Potential market outcome:**
  - Double counting of generation and emissions, which damages the integrity of retail programs and instruments and could limit market participation and slow grid-decarbonization.

State Coordination

Problem statement #6: Under the WEIM, there are known instances of double counting of emissions between Washington and California GHG regulation areas for emitting resources physically located in Washington and deemed delivered to California, in the absence of program linkage.

State Coordination

Action Items:

What analysis and/or review is necessary to facilitate the assessment of problem statements 5 and 6?

Emissions Tracking and Accounting

Problem statement #8: The market does not provide the complete reporting metrics desired by all market participants.

Proposed root causes/sub-problems:

1. The ISO does not have a current understanding of all data required or desired by participants, the rationale for providing that data, the frequency of providing that data, or the granularity of data desired by market participants.
2. There is a disagreement among states and other stakeholders about whether and how attribution in wholesale markets affects retail GHG claims, load-based state programs and the systems for allocating generation and associated emissions to retail load.

Emissions Tracking and Accounting

Problem statement #9: LSEs subject to GHG reduction mandates do not receive data about market imports indicating which resources were deemed to have served their load.

- **Potential root cause/sub-problem:**
  - GHG attribution has been designed solely around GHG pricing programs that require generators to retire allowances.

- **Potential market outcome:**
  - Without access to data about market imports indicating which resources were deemed to have served their load, it is challenging for the LSE to demonstrate compliance with the state GHG regulation.

Emissions Tracking and Accounting

Problem statement #10: It is unclear if the treatment of GHG used in the optimization accurately reflects actual costs of GHG to end-use customers.

Problem statement #11: Current emissions tracking and accounting metrics do not demonstrate the impact of the market on decarbonization and renewable curtailment, or provide requisite data at the greatest feasible granularity for market participants, state regulatory compliance programs, and energy buyers.

Emissions Tracking and Accounting

Problem statement #12: If the methodology for PacifiCorp's compliance reporting of EDAM transactions with the CCA is not congruent with existing regulations and guidance for imports for bilateral transactions and retail, then the GHG regulation area's reporting will be incomplete or inaccurate.

Problem statement #16: The current GHG accounting design based on attribution to the lowest cost individual generating resources, allows for emissions leakage. Leakage is caused by not capturing GHG emissions from all the generating resources actually dispatched to support the transfer of electricity from a non-GHG regulation area into a GHG regulation area.

Emissions Tracking and Accounting

Action Items:

What analysis and/or review is necessary to facilitate the assessment of problem statements 8-12, 16?

Beyond GHG Pricing Policies

Problem statement #7: LSEs subject to a state GHG reduction mandate do not have the ability to affect dispatch to ensure that the emissions of energy deemed to serve their load is within their regulatory limits.

- **Potential root cause/sub-problem:**
  - The dispatch algorithm lacks a price signal that LSEs subject to a GHG reduction mandate can use to indicate their preference for clean electricity.

- **Potential market outcome:**
  - An inability to effectively compete against LSEs subject to GHG pricing programs for low-cost clean energy from the market.

Beyond GHG Pricing Policies

Problem statement #13: If policies (such as CETA's delivery-based renewable compliance paradigm, and prohibitions on coal) base compliance on data from the market operator [data intended to inform market settlements] -- and use that data to represent energy flow serving retail load -- a number of adverse effects would result. These effects include (a) a disconnect would appear between costs and benefits of the resources paid for by retail customers in retail rates and their compliance benefits; (b) it would discount long range clean energy plans developed by utilities to comply with state policies, and (c) it would ultimately disincentivize market participation.

Beyond GHG Pricing Policies

Problem statement #14: There is not a market mechanism to reflect state climate policies that are not based on the cost of carbon. Participating in the market could undermine efforts to decarbonize as the unspecified emissions rate used by states fails to reflect the accuracy of generation and consumption at a local level.

Initial stakeholder feedback:

- The ISO and prospective EDAM participants should explore how EDAM can accommodate non-price based GHG regulation in the near future.
- The goal of the GHG market design is to ensure the market captures the additional GHG cost of serving load in GHG regulation areas, and incorporating non-priced based policies into the optimization was not part of the goal of the GHG design.

Beyond GHG Pricing Policies

Problem statement #15: There is no policy or process that defines how the market can handle both price and non-price based GHG programs and within a state simultaneously.

Beyond GHG Pricing Policies

Action Items:

What analysis and/or review is necessary to facilitate the assessment of problem statements 7, 13-15?

Next steps

- Next working group on November 14th.

- Comments due by end of day November 2nd.
  - Submit using the template provided on the working group webpage

- Submit requests to present to ISOStakeholderAffairs@caiso.com

- Relevant information: https://stakeholdercenter.caiso.com/StakeholderInitiatives/Greenhouse-gas-coordination-working-group