BEST PRACTICES FOR GREENHOUSE GAS ACCOUNTING IN REGIONAL ELECTRICITY MARKETS

Any Western regional wholesale electricity market should include robust and transparent greenhouse gas accounting provisions. This set of greenhouse gas accounting best practices is relevant to market operators, utilities, regulators, and policymakers across an array of possible wholesale electricity market constructs. These best practices offer tools to ensure a future accounting system aligns with regional wholesale electricity markets and does not interfere with reliable market dispatch procedures. Additional best practices can be found in Western Resource Advocates’ white paper “Greenhouse Gas Accounting Systems in Wholesale Regional Electricity Markets: Considerations for the Western Interconnection.”

Singularity of An Accounting Methodology Across a Regional Wholesale Electric Market

Overview:
A greenhouse gas accounting system must be consistent in its procedures and able to account for all transactions occurring in the relevant market. A single greenhouse gas accounting methodology is needed to avoid double counting of emissions reductions and fragmentation within a regional electricity market. Without uniform accounting, multiple greenhouse gas accounting databases with different accounting procedures would need to share information, increasing the risk of double-counting attributes, attributes not being assigned to the corresponding transacted energy, or significant increases in the cost and burden of translating greenhouse gas compliance data across multiple accounting systems.

• Market Operator: The operational and administrative duties of instituting and implementing a greenhouse gas accounting system would fall to the market operator. The market operator could manage these functions itself or contract out some of the duties to a third-party entity. Regardless of the operator of the accounting system, the system must align and be integrated with existing dispatch operations.

• Participating Utilities: To allow market operators to perform greenhouse gas accounting, utilities must report relevant data, such as generation data, and perform transactions within the established greenhouse gas accounting system. Utilities must submit the necessary inputs, especially generator data with specific emissions rates.

• Regulators and Policymakers: Both state-level air quality and utility regulators should be involved in the development of any greenhouse gas accounting system. State regulators should engage in market development efforts to ensure greenhouse gas accounting is both included and is sufficiently robust to accommodate state-specific policy goals.

Guidelines for Transacted Unspecified Power and Associated Renewable Energy Certificate Attribution

Overview:
A greenhouse gas accounting system must have procedures in place for assigning an emissions rate and attributes to unspecified power, which is electricity from sources that cannot be traced to a specific generating facility, including electricity that is traded through market transactions and is likely a mix of multiple different resources. This unspecified power must have attributes assigned to it in order to have a metric of its greenhouse gas emissions intensity for informational and policy compliance purposes. Also, any renewable energy certificates (RECs) purchased to pair with unspecified power must adhere to specific guidelines in order to be accepted for policy compliance purposes. The purpose of RECs is distinct from those of any instruments used to account for greenhouse gas emissions.

• Market Operator: The designated emissions rates assigned to unspecified power should be specified in the operating rules of the greenhouse gas accounting system. The market operator must have a dynamic and yet accurate way to track the thermal system mix rate. This would require the tracking of generation certificates for thermal generation in the wholesale electric market. In order to pair RECs with unspecified power, the accounting system would have to also include capabilities to unbundle the REC from the associated renewable generation.

• Participating Utilities: Utilities would be required to comply with market standards for unspecified power emissions rates and assign these rates to their unspecified power. For state policy compliance purposes, utilities would potentially need to purchase RECs or use alternative compliance pathways to meet emissions reductions or clean energy requirements.
Regulators and Policymakers: Regulators and policymakers should be aware of existing REC policy guidelines in their states and be diligent in avoiding double counting of avoided or reduced emissions, while also recognizing the limitations of regionalized market dispatch in assigning generation to load.

Compatibility with State Environmental Policies and Goals

Overview:
The variety of renewable energy and greenhouse gas policies in place in Western states, including clean energy standards, emissions reductions goals, and renewable portfolio standards, often require power attributes from market transactions to be assigned to each load serving entity and aggregated at the state level.

• Market Operators: Market operators must consider the tools needed to track greenhouse gas attributes, especially considering their utilities’ compliance obligations. Any greenhouse gas system design decisions should consider whether it is possible to track actual real-time generation, requirements for tracking deliverable power, and the extent to which the system can be attribute-based.

• Participating Utilities: Utilities should participate in the market’s greenhouse gas accounting system, to maximize its accuracy and receive the data needed to file for compliance in their respective states. However, utilities may need to institute additional protocols if some information necessary to comply with state policy directives is not tracked within the market’s greenhouse gas accounting system.

• Regulators and Policymakers: Regulators and policymakers should advocate for greenhouse gas accounting systems within regional electricity markets that reflect the full suite of state-level policy objectives. Regulators and policy markets should also consider how any future state-level proposals impact and intersect with greenhouse gas accounting and market dispatch processes.

Design and Management of a Greenhouse Gas Accounting Database for the West

Overview:
The operational complexities of a greenhouse gas accounting system require information to be tracked, managed, and reported. This would ideally occur within a greenhouse gas accounting database that is transparent and publicly accessible, allowing stakeholders to access information on greenhouse gas emissions. Such a database would also assist with assigning load to end users.

• Market Operators: Market operators must consider the tools needed to track greenhouse gas attributes, especially considering their utilities’ compliance obligations. Any greenhouse gas system design decisions should consider whether it is possible to track actual real-time generation, requirements for tracking deliverable power, and the extent to which the system can be attribute-based.

• Participating Utilities: Utilities should use the greenhouse gas accounting database of the market they participate in, adding their generation data so the system has the most accurate and up-to-date information available.

• Regulators and Policymakers: State-level regulators and policymakers should provide feedback to inform market operator decisions concerning the data tracked within a greenhouse gas accounting system, to ensure it is compatible with state-level policy goals. Air quality regulators also may want tools instituted that monitor emissions levels of other air pollutants within the market’s footprint.

Conclusion
These best practices apply in various market constructs and are designed to be compatible with Western states’ energy policy goals while also being implementable and flexible enough for multiple market constructs. Regional electricity markets are an important tool to decarbonize the West’s electricity supply, and inclusion of a robust greenhouse gas accounting framework will be essential. These best practices can guide state regulators and market design specialists in integrating greenhouse gas accounting within regional electricity markets in the West.

For more information, contact Regional Energy Markets Manager, Vijay Satyal Ph.D. at vijay.satyal@westernresources.org or 385.722.2551.