

Measuring What an LSE Manages Under a Federal Clean Energy Standard

Center for Resource Solutions · Clean Energy Accounting Project (CEAP)

JULY 2021

There are many different ways to design a Federal Clean Energy Standard (CES) for load-serving entities (LSEs).¹ However, to implement an aggressive policy quickly, policymakers must choose a metric that an LSE can measure accurately and efficiently. LSEs sell and deliver electricity to end-use customers. How electricity is measured and assigned to (or claimed by) specific LSEs will affect what information must be tracked and verified, what data must be available or will need to be collected, how baselines should be developed, whether or to what extent trading should be allowed, and how the program will interact with existing state clean energy policies.

Four potential metrics for an LSE-focused Federal CES are presented below. Each option treats electricity contracts and generation attributes differently, and therefore require different

approaches to tracking and verification. A clean energy payment or incentive program for LSEs (as opposed to a traditional compliance standard) could also use one of these metrics as the basis for the payment to LSEs.²

1. All Clean Generation Attributes Delivered to an LSE's Customers

This would measure the electricity sold and contractually delivered to an LSE's retail customers, which may differ from the electricity generated in a specific place or the generation on local transmission and distribution systems.³ It most closely resembles what is measured by existing state Renewable Portfolio Standard (RPS) programs. Accurate measurement requires accounting for transactions of energy and generation "attributes" using renewable energy certificates

1 Although LSEs (including investor-owned utilities, publicly owned utilities, cooperatives, municipals and competitive retail electricity marketers) are assumed to be the regulated entity here, a Federal CES could instead be designed to apply to generators, states, or even consumers.

2 In this document, the term CES refers to both a compliance standard (via "regular order") and a clean energy payment or incentive program for LSEs being discussed in the context of budget reconciliation and the American Jobs Plan. The four options describe the quantity that is either used for compliance or verified for payment, respectively.

3 LSEs that calculate their resource mix or other environmental characteristics on something less than an annual basis or provide unique information to specified customers may be able to aggregate data to match a CES reporting period and total retail load eligible to be counted towards the CES.

(RECs).⁴ Existing RECs and tracking systems could be used for verification, and eligible clean energy generators that are not already registered with a tracking system and issued certificates can register to participate in the Federal CES.⁵ The implementing agency, or an appointed entity, could certify that existing tracking systems meet the requirements of the Federal CES.

This option may be most familiar to LSEs and states. It is also largely served by existing market and compliance infrastructure, including regional certificate tracking systems and RECs for accounting. This would probably allow for the quickest implementation. Reliance on existing tracking system and RECs, however, would create a direct interaction between CES policy and state RPS programs, REC markets, and existing contracts for clean energy and RECs. Specifically, legislation or rulemaking would need to address whether or not to count state RPS compliance toward the CES and how to prevent double counting of voluntary demand for renewable energy. LSEs that currently do not participate in REC markets (for example, those that are not obligated to comply with a state RPS, offer voluntary renewable energy products, or do not own renewable generation) would need to register as CES-obligated entities in a tracking system.

2. Clean Electricity Owned or Purchased by an LSE to Serve Load

This option measures the electricity and attributes that are generated or purchased by LSEs to serve load. To prevent double counting and demonstrate use of clean energy to serve load, LSEs would need to generate or purchase both the energy and its generation attributes substantiated by RECs or other certificates (e.g., zero-emissions credits for nuclear power), where issued. The measurement would have to subtract energy and/or attributes from owned generation that an LSE sells at wholesale to another party.

This approach faces several significant implementation challenges. In general, the same options for compliance and verification as option 1 above apply, but this option would also require verification that energy has not been sold separately from the attributes. This option would not allow for trading of attributes (e.g., RECs) separately from electricity, which is common market practice in both state RPS programs and the voluntary renewable energy market. Electricity purchases from the spot market would not be eligible clean energy purchases because they represent a mix of resources, the source of power cannot be easily determined, and associated attributes are usually not included in the transaction.⁶ This measurement does not include all purchased or delivered clean attributes, meaning some RPS-eligible purchases will not be counted.

4 RECs were created more than 20 years ago to track and account for the attributes of renewable energy generation because the nature of the shared electric grid does not facilitate tracking the physical delivery of clean power and associated emissions to customers.

5 Several tracking systems, including the North American Renewables Registry (NAR), the Midwest Renewable Energy Tracking System (MRETS), and potentially others, can register generators located anywhere in the United States and create certificates for that generation. These and other tracking systems may also be able to register and issue certificates to qualifying non-renewable generators with expansions to tracking system functionality.

6 Tracking systems that account for all generation assign unclaimed RECs to a "residual mix" which is assigned to MWh without certificates. While this is useful for calculating power source disclosure labels required in some states, it does not facilitate compliance claims.

3. Clean Generation at the Sources of an LSE's Owned or Purchased Electricity

This would measure electricity generation from the sources an LSE owns or purchases to meet physical load in its service territory, but (unlike option 2) not necessarily bundled with attributes. This would only reflect transactions of energy and has no bearing on generation attributes or the retail use and delivery of clean generation. LSEs would account for clean generation at owned facilities (minus any wholesale electricity sales) and the sources of electricity procured to meet demand.

Because attributes are not being claimed, this option would not make use of RECs for tracking, but it would require invention of a new verification method or instrument,⁷ including generation reporting to a central registry and a way to report transactions of energy from known sources. It would not take advantage of existing infrastructure for implementation, integrate with or build on the progress of existing programs, or provide retail clean energy use claims for LSE customers. Finally, this option may be misunderstood to represent clean energy delivered to customers when it does not. LSEs and customers using this measurement to make retail claims may double count progress toward commitments.

4. Clean Generation in the United States

This option measures clean generation in the U.S., or within specific regions of the U.S., regardless of ownership or where the energy or generation attributes are delivered or consumed.⁸ It does not track transactions of generation attributes,

but clean generation would have to be reported for eligible generators to a central or regional registry.⁹ This option would also require a method of allocating clean generation to LSEs operating within each region. There could be an initial allocation of a new compliance or verification instrument to LSEs (e.g. via auction or based on LSE size), after which there could be trading. This would provide a financial reward to the LSEs. Alternatively, the verification instrument could be issued to generators and LSEs could obtain them for compliance. This may avoid some legal challenges and be more consistent with existing renewable energy contracts specifying the ownership of future instruments. There would be no need to verify LSE use and transactions of electricity. If trading is confined to regions, that would create multiple regional markets rather than one national market.

This option would not affect existing retail markets or instruments like RECs, but an entirely new verification and compliance system would need to be created, and the distribution of clean generation for LSE compliance with the Federal CES would not match the distribution for retail claims. Adding regional limitations to this approach could result in a need for more robust tracking.

*For more general information on renewable energy and greenhouse gas accounting and policy, please see the **Renewable Energy and Greenhouse Gas Accounting Glossary**.*

⁷ In this case, there would not be trading of instruments among LSEs.

⁸ It could ignore international or interregional imports or exports of power, or it could attempt to account for them, though the latter would require more sophisticated reporting.

⁹ Although there would be a time lag, it could rely on data already reported to EIA by generators of 1 MW or greater capacity.

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