



June 2, 2021

Dr. Glenn Blackmon  
State of Washington Department of Commerce  
1011 Plum Street SE  
Olympia, WA 98504-2525

**RE: COMMENTS OF CENTER FOR RESOURCE SOLUTIONS (CRS) IN RESPONSE TO THE MAY 3, 2021  
NOTICE FOR OPPORTUNITY TO COMMENT ON ENERGY STORAGE ACCOUNTING ISSUES**

Dear Dr. Blackmon:

CRS appreciates this opportunity to submit comments in response to the May 5 notice and request for comments on energy storage accounting issues. Please find our responses to questions for stakeholders below.

**BACKGROUND ON CRS AND GREEN-E®**

CRS is a 501(c)(3) nonprofit organization that creates policy and market solutions to advance sustainable energy. CRS provides technical guidance to policymakers and regulators at different levels on renewable energy policy design, accounting, tracking and verification, market interactions, and consumer protection. CRS also administers the Green-e® programs. For over 20 years, Green-e® has been the leading independent certification for voluntary renewable electricity products in North America. In 2019, Green-e® certified retail sales of over 69 million megawatt-hours (MWh), serving over 1.6 million retail purchasers of Green-e® certified renewable energy, including over 113,000 businesses.<sup>1</sup>

**RESPONSES TO QUESTIONS FOR STAKEHOLDERS**

1. *What information regarding the use of storage in meeting its CETA requirements should be included in the utility's CETA compliance report?*

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<sup>1</sup> See the 2020 (2019 Data) Green-e® Verification Report here for more information: <https://resource-solutions.org/q2020/>.

RCW 19.405.040(6)(a)(iii) will require reporting information about the acquisition of new generation and storage resources constructed after May 7, 2019 along with verifying documentation and information related to the cost or relative cost of the renewable + storage system. We request clarification of “rely on renewable resources and energy storage.” Please clarify that it is inclusive (e.g. rely on both renewables and storage together, as opposed to exclusive: either renewables, storage, or both), what qualifies as “relying on” storage, and whether storage must be collocated with the renewable resource or if a stand-alone storage facilities could qualify and how (e.g. ownership, contract, etc.).

2. *How should the energy used and provided by energy storage resources be accounted for to ensure that nonpower attributes of renewable generation are not double-counted? What compliance and reporting requirements would assure verification and prevent double-counting?*

For traditional renewable energy accounting on an annual basis, there is no risk of double counting renewable energy attributes. Renewable energy credits (RECs) are created at generation and retired at consumption. Storage devices that are charged and discharged in between generation and consumption would have no effect. Losses associated with storage would be treated similarly to losses associated with transmission and distribution.

However, when accounting on an hourly basis or otherwise accounting for stored renewable energy, RECs should be used to demonstrate that storage units are charging and discharging renewable energy. In this case, RECs associated with losses should be accounted for (e.g. see question 4). The provision in CETA to achieve targets at lowest cost (RCW 19.405.040(6)(a)(i)) likely means that storage facilities will be participating in different markets, and storage facilities might also interact with the grid a great deal, charging and discharging many times. As a result, RECs (i.e. WREGIS Certificates) should be used to substantiate storage and discharge of renewable power by a storage facility. Otherwise, there can be double counting of renewable MWh—once at generation and again at discharge from storage, and/or once using the REC associated with generation and again without the REC. RECs should be required to verify consumption or delivery of renewable power from storage facilities regardless of whether they are collocated with a renewable energy resource or “stand alone” resources, unless the physical or electrical connection to the generator prevents the storage unit from being charged with power from the grid.

To reduce the risk of double counting, the state should avoid creating a new and separate compliance or tracking instrument for stored renewable energy generation. If this is unavoidable, a separate accounting instrument that does not include attributes or convey retail use claims could be issued for discharge from storage units that have charged within established “clean charging windows” based on the mix of generation operating during the window. We understand this to be the general approach

taken by Massachusetts for its Clean Peak Standard.<sup>2</sup> In this case, the compliance instrument is used simply to verify that storage operation that meets the requirement of the regulation has occurred, rather than to account for stored clean energy delivered to customers.

3. *Should compliance and reporting rules related to energy storage differentiate based on [the following?]. If so, please explain why and provide suggested rule language.*
  - a. *The storage technology, such as battery storage or pumped hydro storage?*

Yes, to collect data on different storage technologies, to verify discharge information (e.g. sent to WREGIS) for the unit, and possibly to account for stored renewable energy (e.g. from collocated units), depending on the metering arrangements to the extent that different technologies have different loss/efficiency rates.

- b. *The location of the storage resource within the grid, such as collocated with a generating resource, interconnected in the transmission or distribution system, or at a retail customer's premise?*

Yes, again, for data collection and analysis, and importantly because accounting requirements (e.g. REC retirements to substantiate charging with and discharging renewable energy at the unit) will depend on whether the storage unit can be charged using grid power, regardless of its location. If it can, RECs should be required to substantiate charging with renewable energy and stored renewable energy discharged.

- c. *The ownership of the storage resource, such as a utility subject to CETA, a non-utility operator, or a retail end use customer.*

Yes, for data collection, to the extent that this information is associated with facility size and metering arrangements, and potentially as a part of compliance and reporting for RCW 19.405.040(6)(a)(iii) (see question 1).

4. *For a storage resource that is interconnected in the power grid, one possible approach is to treat it like a generating resource. The storage resource would be registered in the Western Renewable Energy Generation Information System (WREGIS). It would retire RECs for the renewable electricity used to charge the storage device and report verified data on discharge of electricity into the grid. WREGIS would create RECs for the electricity discharged into the grid. If it used a combination of renewable and fossil sources for charging, a multi-fuel calculation would be applied to ensure that RECs are created only for the renewable portion of*

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<sup>2</sup> There are other ways for storage to qualify under Massachusetts' Clean Peak Standard as well, including co-location, contractual pairing, and discharging to resolve intermittency issues.

*electricity generated into the grid. Please comment on the advantages, disadvantages, and necessary elements of this approach.*

This could be a way to demonstrate a consumer's use of stored renewable energy. An alternative, which may need more thought, may be for storage units to buy and hold RECs for storage of clean energy (charging) and then they can sell/transact fewer for discharging, retiring RECs only for the losses. This may provide more transparency for the end user of the stored renewable energy, allowing them to see the actual generator of the renewable energy. However, additional "tagging" and other verification procedures may be necessary for RECs that have been stored for compliance in this case.

The state may consider additional requirements to evaluate whether storage is benefiting renewable generation on the grid, like the time of the renewable generation relative to the storage. In addition to accurately accounting for renewable energy stored and discharged, the state may wish to measure (through CETA or other programs) storage that increases consumption and/or facilitates the discharge of renewable energy at certain times, for example, to shift renewable energy generation to peak periods. This would require verification that electricity was stored at the time when renewable resources are generating,<sup>3</sup> as well as verification that electricity was discharged during a certain period. Energy storage systems can increase consumption (by charging) at the times when there is an excess of renewable energy and increase production (by discharging) at times of peak load. Information about the timing of storage and discharge is not typically information that is tracked using RECs, though RECs are needed to prevent double counting.

For the same reason, the state may want to consider the geographic restrictions on the eligibility of RECs for storage, e.g. to the same grid region. Whereas electricity customers may make credible renewable energy usage claims based on RECs that are sourced nationally in the voluntary market, in this case, the RECs may be used to characterize bundled electricity that is being stored and discharged at the storage facility. In that case, the RECs should be sourced from the same grid region where the storage facility is located.

5. *For a storage resource that is collocated with a renewable generating facility:*
  - a. *Should the storage accounting rules specify that RECs are created based on the amount of electricity generated or on the amount of electricity delivered into the grid?*

RECs should be issued for the amount generated unless the storage facility cannot be charged from the grid. In this case, the approach in question 4 could be used—effectively, reissuance—RECs are created based on the amount of generation and then retired for storage, and RECs are created for the (smaller) amount of renewable energy discharged after losses. Only if generation + storage represents a

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<sup>3</sup> The regulator should have a process to historically verify that the total amount of energy stored during a period of time does not exceed the total amount of renewable energy generating at that time.

“single facility,” meaning the storage facility cannot receive electricity from the grid, should RECs be issued after storage without issuance for generation and retirement before storage. Even for collocated storage facilities, the storage facility is effectively part of “the grid” if the storage can receive power from the grid.

- b. How should power from the grid used to charge the storage resource be accounted for?*

Power from the grid should be assigned the residual fuel/resource mix unless it is matched with RECs to substantiate use of renewable fuel/resources for charging. If the time of charging and discharging is also being accounted for (for example, to demonstrate shifting of renewable energy generation due to storage or hourly use of renewable energy), then power from the grid used for charging should be accounted for based on the hourly mix of generating resources at the time of charging plus the attributes associated with that generation.

- 6. For a storage resource located at a retail customer’s premise, should the electricity used to charge the resource be included in the load of the utility for purposes of CETA? If the storage resource returns electricity to the grid, should this electricity be subtracted from the load of the utility for purposes of CETA?*

Yes, in the case of a stand-alone storage unit without onsite renewables. For collocated facilities, it may depend on metering arrangements. If the storage unit is separately metered, it may be possible to determine the proportion of charging with onsite renewable generation versus grid power, i.e. utility load.

- 7. Use of a storage resource will result in electricity being delivered to load at a different time than the electricity was generated. WREGIS creates RECs with a vintage specified as month and year. Is month and year vintage information sufficient to ensure that renewable energy claims are accurate and that double-counting of renewable generation does not occur? If not, what vintage detail should be required and why?*

Yes, unless the state or consumers are seeking to make hourly renewable energy claims (i.e. to account for stored renewable energy or renewable energy discharged from storage facilities on an hourly basis), or to demonstrate that renewable generation has been shifted to a different time (e.g. peak period). In that case, hourly vintage information or “time stamping” may be needed for RECs.

- 8. If a storage facility operator charges an energy storage facility with a combination of renewable and non-renewable electricity, what verification, documentation, or calculation*

*requirements would ensure that the output of the storage resource is accurately accounted for as renewable or non-renewable?*

See our response to question 4. Where the electricity used for charging represents a mix of renewable and non-renewable generation, a locally sourced, CETA-eligible REC (WREGIS certificate) should be retired to substantiate each MWh of renewable generation stored. The storage facility should be registered in WREGIS. The percent of RECs retired for metered charging can be applied to the metered amount discharged for REC issuance to the storage facility for renewable energy output. Where metering is not available for either charging or discharging, other information may be necessary to determine the number of RECs issued to storage.

Attestations may be used to supplement verification instruments. For example, the Green-e® program also requires attestations for biogas facilities to ensure that the gas is renewable, from the producer of the biogas for the injection of the gas and for the production of electricity from the gas.

Depending on other objectives, the state may also wish to verify that electricity was stored when CETA-eligible renewable resources are generating or that the storage facility is directly physically or electrically connected to a renewable energy resource.

*9. Are there any energy storage accounting requirements used by other jurisdictions or by voluntary programs or protocols that should be considered, either as guidance in adopting rules for CETA or to avoid potential conflicts in approaches?*

We reference the treatment of storage under Massachusetts' Clean Peak Standard above.

Please let me know if we can provide any further information or answer any other questions.

Sincerely,

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Todd Jones  
Director, Policy