

## ACORE Statement on the Value of Renewable Energy Certificates

Renewable Energy Certificates (RECs) are market accounting mechanisms used to substantiate claims of renewable electricity use, given that physical electrons consumed on a shared grid are indistinguishable by origin and generation fuel type. They are the only mechanism to ensure that companies' reporting of renewable procurement claims are verified, consistently and accurately measured, and uniquely retired to prevent double counting.

There is a strong legal basis for RECs. Multiple government entities at different levels, regional electricity transmission authorities, non-governmental organizations, trade associations, and market participants have recognized that RECs represent and convey the non-power attributes of renewable electricity generation, along with the legal right to claim usage of that renewable electricity.<sup>1</sup>

The American Council on Renewable Energy's (ACORE) renewable energy project developer and finance members regularly attest that many renewable energy projects that are operating now would not have been able to be financed or have continued operating without voluntary REC sales. This remains true despite cost efficiency improvements in renewable energy projects observed over recent years due to the variable nature of forecasted future generation and electricity market prices.

While we understand the intent of SBTI's Call for Evidence on EAC Effectiveness, it is extremely important to understand that many of the academic articles on voluntary REC procurements do not evaluate how project financiers quantify the value of voluntary REC market access as they evaluate project proposals. For example, a top-down electric grid planning model does not consider how the uncertainty of future electricity prices affects the expected value of future revenues a renewable energy project should receive. Voluntary REC markets are a way to reduce that uncertainty.

The following sections describe the project finance value and, thus, the effectiveness that voluntary REC procurement provides.

**Voluntary REC purchasing provides a critical value stream to renewable projects.** By providing additional sources of revenue for projects, voluntary purchasing helps create financial certainty to enable new projects to move forward or continue operating. Corporate buyers that sign power purchase agreements (PPAs) or virtual PPAs (vPPAs) create direct demand signals for renewable energy projects to come online. Projects cannot attract needed tax equity financing, which is responsible for one-third to two-thirds of a project's capital stack, until an agreement with a PPA or vPPA offtaker is secured. In a vPPA, while the electricity is sold to the regional transmission organization (RTO) or local utility, the corporate buyer is transacting a financial swap that provides direct, long-term revenue to the project and the certainty needed to help it move forward. vPPAs also create demand for renewable generation in areas with good renewable resource potential but where regulation is not incentivizing demand sufficiently to promote new renewable development – allowing for the more efficient deployment of renewables across the U.S. There are locations where customers cannot obtain renewable energy

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<sup>1</sup> National Renewable Energy Laboratory (NREL), "Status and Trends in the U.S. Voluntary Green Power Market (2021 Data), July 2023, [Status and Trends in the U.S. Voluntary Green Power Market \(2021 Data\) \(nrel.gov\)](https://www.nrel.gov/analysis/status-and-trends-in-the-u-s-voluntary-green-power-market-2021-data).

without a PPA, vPPA or REC purchase. The inability to meet customer goals with these market-based tools would further hamper renewable energy development.

**The revenue stream unbundled RECs provide can also serve as the inducement needed to incentivize new generation.** Unbundled REC sales account for a growing proportion of total renewable project revenue and provide “a return on investment for equity investors or the repayment of principal and interest to debt lenders.”<sup>2</sup> The REC revenue stream is increasingly important given the growing volatility in wholesale market pricing for other project revenue sources (i.e., energy, capacity, and ancillary services). Many renewable-rich states in the U.S. are in regions where there is no capacity market. Non-utility developed renewable resources are unable to capture resource adequacy value, such as those developed in the Midwest and Texas. Energy and ancillary prices are often low and/or volatile throughout several of these states, challenging the ability to finance projects solely off these revenue streams. RECs are, therefore, critical for project financing and thus favorably impact the economics of the renewable energy industry.

Unbundled REC purchasing from a new project over a multi-year period can provide the project with an important long-term revenue stream. Furthermore, REC purchasing from a preexisting renewable project is also critical because REC sales were a part of the initial underwriting and financing of the project when it was developed.<sup>3</sup> Projects do not typically have PPA offtakers through the full lives of the assets. Therefore, the ability to obtain the benefit of merchant RECs after the end of the PPA supports the overall economics of a project. Without these REC sales, or an equivalent support mechanism, these projects may not have been built or be able to stay operational in the merchant phase.

**REC sales help align the supply-demand mismatch in the country’s renewable energy availability.**

There are regions in the U.S. with high renewable supply but limited demand (e.g., ERCOT) as well as regions with lower supply and higher demand (e.g., PJM). Furthermore, due to pricing variance across U.S. markets, RECs can be traded to capture arbitrage opportunities. The buying and selling of RECs both improves the economics of electricity procurement and continues to enable the buyer to substantiate renewable energy claims.

While the voluntary and compliance renewable energy markets generally operate separately, they can be complementary in providing multiple revenue streams that operate on different timetables for project developers. RPS targets generally increase incrementally over time and renewable energy projects are often constructed in large increments to take advantage of economies of scale; therefore, available renewable generation may exceed current RPS requirements. Voluntary markets can help provide an alternative market for the output of excess renewable energy capacity, which can be

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<sup>2</sup> Environmental Markets Association. “Primer: REC Financing Mechanisms for Renewable Energy Projects.” January 9, 2023. [https://www.enviromarkets.org/resources/2023-01-09\\_EMA%20Primer%20on%20REC%20Financing%20Mechanics%20for%20Renewable%20Energy%20Projects.pdf](https://www.enviromarkets.org/resources/2023-01-09_EMA%20Primer%20on%20REC%20Financing%20Mechanics%20for%20Renewable%20Energy%20Projects.pdf)

<sup>3</sup> Even in the case of existing hydro where RECs were not part of the initial underwriting, REC revenues can support both maintenance of emissions-free dispatchable power (otherwise most likely supplied by fossil-fired sources) or opportunities for asset owners to implement efficiency upgrades that add capacity from these long-standing renewable resources.

beneficial for project developers. And utilities that are subject to an RPS may find it easier to manage current and future supplies if they also offer a green pricing program.<sup>4</sup>

**RECs can be traded to capture arbitrage opportunities due to pricing variance across U.S. markets.** The buying and selling of RECs both improves the economics of electricity procurement while continuing to enable the buyer to substantiate renewable energy claims. REC arbitrage also reduces the cost of RPS compliance by allowing renewable energy to be generated where it makes the most economic sense, allowing greater geographic reach than a given electric delivery system provides and avoiding costs of new transmission and distribution where efficient. The flexibility RECs provide to meet RPS mandates translates into more renewable deployment. Unbundled RECs can be banked for months or longer, varying by market.

**Without a marketplace that facilitates the resale of RECs (i.e., unbundled sales and purchase transactions), the value of project-specific RECs would likely plummet, endangering the economics of many marginal renewable electricity projects.** Reduced REC sales would lead to risks for new development, which would increase the new incremental financing costs of projects. The discouragement of unbundled REC transactions could also decrease access to renewable energy in underserved customer segments. RECs are the only mechanism the vast majority of electricity users have to leverage distributed purchasing power to drive the development of emissions-free renewable resources.<sup>5</sup>

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<sup>4</sup> NREL, “Interaction of Compliance and Voluntary Renewable Energy Markets,” October 2007, p. 21, [Interaction of Compliance and Voluntary Renewable Energy Markets \(nrel.gov\)](https://www.nrel.gov/docs/fy07/p02102.pdf).

<sup>5</sup> Environmental Protection Agency, “National Assessment of Consumer Access to Green Power Supply: Leadership and Impact Considerations,” December 2021, <https://www.epa.gov/green-power-markets/leadership-and-access>