



The Legal Basis for Renewable Energy Certificates

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Introduction

This report summarizes the legal basis for renewable energy certificates (RECs)¹ and the extent to which RECs have been integrated into and upheld by the U.S. legal system. A REC is a tradeable certificate representing the holder's legally recognized property right in the environmental attributes associated with the generation of one-megawatt hour of electricity by a renewable resource.² Each REC is a unique certificate that may be traded independently from the underlying electricity, and each REC can be retired by or on behalf of its owner in order to claim usage of the renewable generation represented by the REC. RECs are not controlled by any one organization or group of organizations, and neither are they instruments of recognition or donation. Rather, RECs are a necessary part of the machinery of U.S. electricity markets, used to demonstrate renewable electricity purchasing, delivery, and use.³

RECs are used in two types of markets in the U.S. "Voluntary" markets primarily serve the demand of corporate, institutional, and individual purchasers who wish to purchase renewable energy to meet a variety of environmental and economic goals. "Compliance" or "mandatory" markets are created by law, most often by a state renewable portfolio standard (RPS), that typically require that a certain percentage of electricity sold to consumers is supplied with renewable resources.

State Law

State law underpins the legal basis of RECs transacted in both markets. While RECs throughout the U.S. represent the environmental attributes of renewable electricity generation, state laws vary with respect to the precise definition of RECs. State statutes and regulations differ with respect to defining the environmental attributes that are represented by a REC. The "environmental attributes" recognized by a particular state may include any combination of the following: the renewable energy source, the geographic location of the facility, the avoidance of emissions and/or local pollution associated with the generation of renewable power, the facility's contributions to workforce development, as well as many other environmental, economic, and social benefits.⁴ State laws and regulations also vary with respect to regulatory compliance eligibility. Many states only recognize RECs generated within the state or its regional tracking system for the purposes of RPS compliance,⁵ while some impose little to no geographic restrictions. Others will recognize out-of-state RECs but provide incentives or multipliers on the value of the REC to encourage in-state renewable energy generation.⁶ States may also establish multiple categories of RECs, some of which provide additional incentives for the procurement of RECs from particularly desirable renewable sources.⁷

While these variations exist, the core mechanics of how RECs function are remarkably consistent. As shown in this report, the significant majority of states, multiple governmental entities at different levels, regional transmission electricity authorities, non-governmental organizations (NGOs), trade associations, and market participants⁸ have recognized that RECs represent the renewable, environmental and/or social

attributes of renewable electricity generation to the owner, along with the legal right to claim usage of that renewable electricity. These entities recognize further that without RECs such a claim could not otherwise be substantiated⁹ by utilities and electric service providers meeting compliance market requirements or by other entities and individuals meeting voluntary emissions targets.

- Thirty-eight (38) U.S. states and territories recognize or have recognized that RECs can be used to track and transact the environmental attributes of renewable electricity injected on the grid and that RECs can be used to demonstrate compliance of regulated entities with RPS or similar laws requiring provision of renewable electricity to grid customers, or participation in voluntary state programs for provision of renewable electricity to grid customers.¹⁰
- Twenty-four (24) U.S. states and territories explicitly recognize RECs as representing “attributes” of generation (or similar);¹¹ twenty-two (22) recognize them as mechanisms for “tracking” or “trading” (or equivalent) electricity or attributes;¹² eighteen (18) describe them as representing electricity or energy “generation” (or equivalent);¹³ four (4) recognize them as “proof of generation,” or equivalent;¹⁴ and five (5) explicitly identify RECs as “property.”¹⁵

In a transactional context, RECs can be sold either separately from the electricity they are associated with (often referred to as “unbundled” RECs) or with the electricity they are associated with (often referred to as “bundled” renewable energy). To effectuate this transactional structure, RECs are inventions of state RPS and property laws whereby the renewable energy generation attributes are always distinct or “unbundled” from the electricity itself and can be transacted together with electricity from the same source, transacted with electricity from a different source, or sold separately and paired to electricity procured through a separate transaction, at the wholesale or retail level and by electricity providers or customers. As such, states set eligibility requirements to focus on various attributes which they deem to be especially relevant.¹⁶ For example, according to the State of Iowa:

Because of the laws of physics that govern operation of the electric transmission system, it is impossible to ensure that electricity produced by a particular renewable source is specifically and exclusively directed, in a physical sense, to the purchasing entity. An accounting system that verifies compliance must therefore rely on an agreed-upon abstract medium of exchange similar to the way the financial markets rely on money to represent value. In the renewable energy area, Tradable Renewable Certificates (TRCs) have been developed as a medium of exchange representing the renewable attributes of renewable energy. TRCs can be used to show compliance with energy-based RPS mandates.¹⁷

According to the State of New York, which began developing its certificate-based tracking system—NYGATS—in 2012:

Unbundling [energy from its environmental attributes] allows NYSERDA, as the RPS Program's central procurement administrator, to acquire environmental attributes from generators instead of the rights that prevent generators from selling or transferring their environmental attributes to others. Increased control of the attributes can provide more assurance that double counting of attributes is avoided. If a certificate-based tracking system is developed, then the title to the environmental attributes could be in the form of renewable energy certificates (RECs), which would be easily transferred to NYSERDA as proof of its acquisition of renewable attributes. Thus, unbundling of attributes has the potential of strengthening significantly the market for renewable energy and opportunities for achieving the objectives of the RPS Program.¹⁸

Tracking Systems

Renewable energy tracking and certificate-issuing entities cover the whole of the lower 48 states and multiple provinces in Canada. These tracking systems include the Electric Reliability Council of Texas (ERCOT), Michigan Renewable Energy Certification System (MIRECS), Midwest Renewable Energy Tracking System (M-RETS), North American Renewables Registry (NAR), North Carolina Renewable Energy Tracking System (NC-RETS), New England Power Pool Generation Information System (NEPOOL-GIS), Nevada Tracks Renewable Energy Credits (NVTREC), New York Generation Attribute Tracking System (NYGATS), PJM EIS's Generation Attribute Tracking System (PJM-GATS), and the Western Renewable Energy Generation Information System (WREGIS). With the exception of the North American Renewables Registry (NAR), all of the tracking system entities were established with the support of U.S. states, which have designated specific tracking systems to be used for issuing and tracking certificates and verifying compliance with state policies or programs.

- Seven (7) of these regional tracking systems define their certificates explicitly as “attributes” of renewable generation.¹⁹ ERCOT requires that RECs must be associated with physically metered renewable energy and verified within the State of Texas. PJM-GATS and the NYGATS tracking systems have “generation attribute” as a part of the name of the entity—Generation Attribute Tracking System.
- All define their instruments as the mechanisms for “tracking” or “trading” (or equivalent) attributes or proof of generation for the purposes of compliance with state programs and/or voluntary programs.²⁰

Federal Law

While there is no single federal REC definition, several federal regulatory agencies have defined, characterized, and recognized RECs. According to the U.S. Federal Trade Commission (FTC), a REC “represents a property right in the technological and environmental attributes of renewable energy.”²¹ The

U.S. Environmental Protection Agency (EPA) has defined a REC as “a tradeable, market-based instrument that represents the legal property rights to the ‘renewable-ness’—or non-power (i.e., environmental) attributes—of renewable electricity generation.”²² The U.S. Commodity Futures Trading Commission (CFTC) has clarified that RECs are a “nonfinancial commodity,”²³ meaning one that “can be physically delivered.”²⁴ As such, it is an “exempt commodity.”²⁵ According to the CFTC:

The CFTC understands that market participants often engage in environmental commodity transactions in order to transfer ownership of the environmental commodity (and not solely price risk), so that the buyer can consume the commodity in order to comply with the terms of mandatory or voluntary environmental programs. Those two features—ownership transfer and consumption—distinguish such environmental commodity transactions from other types of intangible commodity transactions that cannot be delivered, such as temperatures and interest rates. The ownership transfer and consumption features render such environmental commodity transactions similar to tangible commodity transactions that clearly can be delivered, such as wheat and gold. [...] For the foregoing reasons, environmental commodities can be nonfinancial commodities that can be delivered through electronic settlement or contractual attestation. Therefore, an agreement, contract or transaction in an environmental commodity may qualify for the forward exclusion from the swap definition if the transaction is intended to be physically settled.²⁶

The U.S. Federal Energy Regulatory Commission (FERC) has also recognized that RECs can be “unbundled” and traded separately from the energy and capacity associated with the generation.²⁷ In a later hearing, FERC concluded that unbundled REC transactions fall outside of FERC’s jurisdictional authority and instead are under the exclusive jurisdiction of the states, holding that RECs are “state-created and state-issued instruments certifying that electric energy was generated pursuant to certain [state] requirements and standards.”²⁸

On Oct 1, 2003, FERC issued an order declaring that avoided cost contracts entered into pursuant to PURPA, absent express provisions to the contrary, do not inherently convey to the purchasing utility any RECs.²⁹ Rather, the power purchase price that the utility pays under such a contract compensates a generation facility only for the energy and capacity produced by that facility and not for any environmental attributes associated with the facility. FERC later reaffirmed this order by denying a request for rehearing in 2004:

[Those seeking a rehearing] oppose having this Commission rule that contracts for the sale of QF [Qualifying Facility] capacity and energy entered into pursuant to PURPA convey only the capacity and energy, and do not convey RECs, to the purchasing utility (absent express provision in the contracts to the contrary). We disagree.³⁰

If avoided cost rates are not intended to compensate a QF for more than capacity and energy, it follows that other attributes associated with the facilities are separate from, and may be sold separately from, the capacity and energy. Indeed, states in creating RECs that are unbundled and tradeable have recognized this. The very fact that RECs may be unbundled and may be traded under State law indicates that the environmental attributes do not inherently convey pursuant to an avoided cost contract to the purchasing utility.³¹

[W]e note that cogeneration facilities, to receive QF status, are required to produce both electricity and useful thermal output. [...] The thermal output that is a pre-requisite to a cogeneration facility's achieving QF status is saleable separately from the capacity and energy of the cogeneration facility. [...] If the thermal output of a cogeneration QF is separately saleable, the renewable attributes of a small power production QF are similarly separate.³²

The U.S. EPA recognizes unbundled RECs as well:

Retail renewable energy certificates (RECs) are sold, delivered, or purchased separately from electricity (commonly referred to as "unbundled"). They represent proof of renewable electricity delivered to the grid and represent the environmental effect or energy attributes of that renewable electricity. RECs are a marketable commodity that are in demand with electric utilities and large and small electricity consumers (e.g., residential, commercial, and industrial) [...].³³

Caselaw Addressing RECs

Federal courts, state utility commissions, and state courts have broadly recognized that RECs are part of the compliance regime for state RPS programs. Various challenges have been brought to state RPS programs and similar requirements over the years, frequently citing violations of Commerce Clause violations on the theory that regulated entities, such as utilities, obtain an increasing proportion of their electricity from renewable sources, which can be accomplished through RECs, which have been nearly uniformly dismissed.³⁴

For example, in 2017, the Second Circuit Court of Appeals upheld Connecticut's REC program that gave preference to RECs generated in the control territory of its regional independent system operator, ISO-NE or an adjacent territory over RECs generated elsewhere, stating:

*RECs are inventions of state property law whereby the renewable energy attributes are 'unbundled' from the energy itself and sold separately. As such, different states define RECs differently, focusing on various attributes which they deem to be especially relevant.*³⁵

State courts have recognized the general purpose and intent of RECs. For example, the Superior Court of New Jersey has recognized that "One Renewable Energy Certificate represents the environmental benefits or attributes of one megawatt-hour of generated renewable energy," and RECs are considered "property."³⁶

The Connecticut Supreme Court has recognized that:

*The certificates verify that specified units of electricity have been generated using renewable fuel or have been produced with low emissions and, pursuant to state law, can be purchased to satisfy the state renewable energy requirements. See General Statutes § 16-245a (b). Thus, the certificates effectively "unbundled" the renewable energy attribute of the electric product from the generic energy component for accounting purposes and allowed them to be traded separately.*³⁷

The United States Court of Appeals, Second Circuit has recognized that:

*Generally speaking, RECs are inventions of state property law whereby the renewable energy attributes are "unbundled" from the energy itself and sold separately. The credits can be purchased by companies and individuals to offset use of energy generated from traditional fossil fuel resources or by government agencies to satisfy certain requirements that these agencies purchase a certain percentage of their energy from renewable sources.*³⁸

The Armed Services Board of Contract Appeals (ASBCA), the body that resolves contract disputes between government contractors and the U.S. Military, also agrees that RECs, "are personal property, given their exclusive nature and transferability," and on this basis denied an appeal in August of 2013 to a delivery order that characterized RECs as "energy savings."³⁹ The Board found that RECs are not simply financial incentives offered by New Jersey relating to the generation of renewable energy that constitute energy savings. Rather, "[solar RECs or] SRECs simply reflect the clean, renewable aspect of electricity produced by a solar facility."⁴⁰ It found that although the electricity produced by a solar array reduces the amount of energy the owner must purchase, and though RECs may generate revenue that could be used to pay energy costs, the certificates themselves do not reduce those energy costs.⁴¹ Furthermore, the ASBCA found that even were the definition of energy savings to be expanded to include the sale of excess electricity generated by solar facilities, "SRECs are not electrical energy. They are marketable certificates,

representing the clean, renewable nature of a solar facility's electrical production that has been severed from the electricity for the very purpose of being sold separately."⁴²

Voluntary Usage of RECs

The ability of RECs to demonstrate the voluntary usage of renewable electricity and the attributes of its production is recognized by the U.S. Department of Defense (DOD), U.S. EPA, the U.S. DOE, the U.S. FTC, The Climate Registry, the CDP (formerly the Carbon Disclosure Project), and Center for Resource Solutions (CRS) among others.

- Under federal law, the U.S. DOD is permitted to purchase RECs to meet its renewable energy procurement goals, and the Secretary of Defense is statutorily required to establish and maintain a "policy to maximize savings" for the purchase of RECs.⁴³
- The U.S. EPA has recognized RECs as "market-based instrument[s] that represent the property rights to the environmental, social, and other non-power attributes of renewable electricity generation"⁴⁴ which "provide an essential accounting and tracking function in renewable energy and green power claims."⁴⁵ The EPA has identified RECs as the "only mechanism available" to both demonstrate (1) compliance with state RPS, and (2) voluntary renewable energy use that is "incremental" to state RPS requirements.⁴⁶
- The White House Council on Environmental Quality (CEQ) defines a REC as "the technology and environmental (non-energy) attributes that represent proof that 1 [MWh] of electricity was generated from an eligible renewable energy resource" and affirms that a REC "can be sold separately from the underlying generic electricity with which it is associated."⁴⁷ RECs, as a type of Energy Attribute Certificate (EAC) for renewable resources, are required for all renewable energy purchasing by federal agencies in the 2022 Implementing Instructions for Executive Order 14057.⁴⁸
- The Environmental Markets Association (EMA) recognizes RECs as "the property rights to the environmental benefits from generating electricity from renewable energy sources" that "can be sold and traded and the owner of the REC can legally claim to have purchased renewable energy."⁴⁹
- The American Bar Association (ABA) has recognized that "parties can create a record of the verification and disposition of the environmental attributes of the REC that can travel with further downstream transactions in the particular REC."⁵⁰
- According to the U.S. FTC, "If a marketer generates renewable electricity but sells renewable energy certificates for all of that electricity, it would be deceptive for the marketer to represent, directly or by implication that it uses renewable energy."⁵¹ To date, the FTC has not brought an enforcement action for a claim related to the use of renewable energy⁵², despite petitions for investigation.⁵³
- The U.S. CFTC recognized that "market participants often engage in environmental commodity transactions in order to transfer ownership of the environmental commodity (and not solely price

risk), so that the buyer can consume the commodity in order to comply with the terms of mandatory or voluntary environmental programs.”⁵⁴

- The legitimacy of voluntary renewable energy usage and ownership claims through RECs was recognized by the California Energy Commission in 2010, when they ruled that a claim against RECs by a utility after the RECs had already been claimed by voluntary purchasers is not allowed as it would lead to a double-recovery.⁵⁵

According to the U.S. FTC:

*Once renewable electricity is introduced into the grid, it is physically indistinguishable from electricity generated from conventional sources. Accordingly, consumers cannot determine the source of the electricity flowing into their homes and businesses. However, because electricity transactions can be tracked, entities can "buy" renewable power by purchasing power bundled with RECs. Under the REC system, a renewable electricity generator splits its output into two components: (1) the electricity itself (i.e., "null" electricity); and (2) certificates representing the renewable attributes of that electricity. Generators that produce renewable electricity sell their electricity at market prices for conventionally produced power and then sell the renewable attributes of that electricity through separate certificates. Organizations purchase these RECs to characterize all or a portion of their electricity usage as "renewable" by matching the certificates with the conventionally-produced electricity they normally purchase. By allowing these certificates to be sold separately and not requiring the renewable attribute to remain attached to the generated electricity, the REC approach provides flexibility and efficiency for the renewable electricity market.*⁵⁶

And further:

[T]he operation of the renewable energy market relies heavily on the expectation of all market participants that these certificates have not been counted or claimed twice (i.e., double counted). Such double-counting can occur, for instance, through [...] renewable energy claims made by a company that already sold the RECs for its renewable generation. [...] Such double counting, in turn, not only risks deceiving consumers but also threatens the integrity of the entire REC market. By selling RECs, a company has transferred its right to characterize its electricity as renewable.

[...]

In addressing these issues in the Green Guides, the Commission [...] did warn that power providers that sell null electricity to their customers, but sell RECs based on that electricity to another party, should keep in mind that their customers may mistakenly believe the electricity they purchase is renewable, when legally it is not. Accordingly, it advised such

generators to exercise caution and qualify claims about their generation by disclosing that their electricity is not renewable.⁵⁷

Certification through the Green-e[®] Energy program along with the same tracking systems that are used for state compliance programs (and/or verification of contracts with the original generator) are used in the U.S. voluntary renewable energy market to provide equivalent assurances related to ownership, full aggregation,⁵⁸ and avoidance of double counting to voluntary buyers. Nine (9) tracking systems in North America have protocols in place to prevent double counting of RECs.⁵⁹

RECs in a Transactional Context

RECs have also been fully integrated into many of the most commonly used transactional frameworks for electricity more generally, as well as for renewable energy and environmental attributes in particular, demonstrating their widespread acceptance in the market, including those transactional frameworks and standards maintained by the Edison Electric Institute (EEI), WSPP Inc., the International Swaps and Derivatives Association (ISDA) and the Solar Energy Industry Association (SEIA), and the product offerings of various brokers.

EEI represents U.S. investor-owned electric companies and has worked to develop Master Power Purchase and Sale Agreements. The EEI Master Agreement is widely used by buyers and sellers trading in repeatable, energy and energy-related commodities. In 2010, EEI promulgated an optional RECs Annex (EEI RECs Annex) developed by a working group of members from the Renewable Energy Resources Committee and the Special Committee on Energy and Environmental Finance of the American Bar Association's Section of Environment, Energy and Resources, the Environmental Markets Association, and the American Council on Renewable Energy.⁶⁰ The EEI RECs Annex amends, supplements and supersedes the EEIA Master Agreement with respect to the purchase and sale of RECs (REC Transactions).⁶¹ The EEI RECs Annex amends such provisions as payment and netting to account for REC Transactions, and supplements with new provisions allowing for the delivery, transfer of title, tracking and certification of RECs.⁶² The EEI RECs Annex also supplements the EEI Master Agreement with respect to: further representations, warranties and covenants for REC Transactions; a provision regarding the applicable law for REC Transactions; and additional terms with respect to remedies and the scope of force majeure for REC Transactions.⁶³

WSPP Inc. is an organization of electric wholesale market entities that developed a standardized power sales contract (WSPP Agreement). The current WSPP Agreement includes a Service Schedule R for Renewable Energy Certificate Transactions With and Without Energy,⁶⁴ and is a commonly used standardized power sales contract in the electric industry. As the part of the WSPP Agreement that governs REC transactions, Service Schedule R "states terms and conditions applicable to REC Transactions entered into by Parties under the [WSPP] Agreement," including as relates to: the definitions of different types of REC products, such as Resource Contingent Bundled RECs and Facility As-Run RECs; delivery and

title of the REC products; governing law and change in law; seller representations and warranties; confidentiality and records; and remedies for non-performance, among other relevant topics.⁶⁵

The International Swaps and Derivatives Association (ISDA) has “over 1,000 member institutions from 79 countries,” including “corporations, investment managers, government and supranational entities, insurance companies, energy and commodities firms, international and regional banks, [...] exchanges, intermediaries, clearing houses [...] repositories[, ...] law firms, accounting firms and other service providers” and has developed a standard contract for over-the-counter derivatives transactions (ISDA Master Agreement); the ISDA US REC Annex provides terms for governing REC transactions under the ISDA Master Agreement, including as relates to: obligations and deliveries; remedies for failure to deliver or receive; payment; limitation of liability; taxes; title and risk of loss; and minor modifications to the ISDA Master Agreement, among other relevant topics.⁶⁶

The Solar Energy Industries Association (SEIA) endorsed and modified power purchase agreement (PPA) model contracts, including template PPAs for Residential Customers that include RECs in their terms, including as relates to: the ownership of any RECs attributed to the solar panel system installed in the residential customer’s home under the PPA; an obligation for the residential customer to “reasonably cooperate” to allow the provider of the solar panel system or other party to claim the RECs attributed with the residential customer’s use of the solar panel system; and an obligation for the provider of the solar panel system to confirm the availability of any RECs in the amount used to calculate the residential customer’s monthly payments for the solar panel system.⁶⁷ SEIA’s template PPAs for Commercial & Industrial Customers even has a section on “RECs and Incentives,” which entitles the seller of the electricity under the PPA to benefits and ownership interests in the RECs while obligating the purchaser of the electricity under the PPA to cooperate with the seller in this regard but without requiring them to incur any expenses in connection with such cooperation unless reimbursed by the seller.⁶⁸

Conclusion

Rooted in state law and recognized within legal and energy regulatory regimes of a majority of states and other jurisdictions, RECs are essential to any renewable electricity usage claim in the U.S. Despite differences between states and voluntary programs in terms of eligibility requirements,⁶⁹ RECs are heavily used as the primary means of tracking the environmental attributes of grid-connected renewable electricity generation. The evidence is overwhelming that trading a REC in the U.S., whether bundled or unbundled with underlying electricity, effectively transfers ownership rights over all of the attributes of the associated renewable electricity generation to the REC purchaser. RECs therefore allow trading of differentiated electricity products despite the physical inability to identify the exact generating source supplying electricity to an individual customer or facility. RECs have been incorporated into every major standardized form of energy purchasing contract and are a well-understood, routine feature of each and every power purchase agreement respecting any renewable generation source.

End notes

¹ Renewable energy certificate (REC) in this document is a term used to describe the various REC and equivalent instruments in the U.S., which can have different names as used by various state, regional, and voluntary programs, but with the same basic features as described in this document.

² JAN HAMRIN, CLEAN ENERGY STATES ALLIANCE, REC DEFINITIONS AND TRACKING MECHANISMS USED BY STATE RPS PROGRAMS (June 2014), <https://www.cesa.org/wp-content/uploads/RECs-Attribute-Definitions-Hamrin-June-2014.pdf>.

³ Renewable energy certificate (and equivalent instrument) state definitions and accompanying RPS or similar compliance program:

- AZ: ARIZ. ADMIN. CODE § R14-2-1801(N) (2023).
- AK: ARK. CODE. ANN. § 23-18-603 (2023).
- CA: CAL. PUB. UTIL. CODE § 399.12(H)(1)-(2) (West 2022).
- CO: COLO. CODE REGS. § 723-3-3 (3652)(y) (2023).
- CT: CONN. GEN. STAT. § 16-245A(A-B) (2022) (RECs are not specifically defined in CT law. The above Connecticut General Statute citation mentions RECs and states that the CT RPS uses the operating rules of NEPOOL-GIS, available at, <http://www.nepoolgis.com/documents/>).
- DC: D.C. MUN. REGS. tit. 15, § 2999.1 (2023).
- DE: 26-3000-3008 DEL. ADMIN. CODE § 1.1 (2023).
- IA: IOWA CODE § 476.44A (2023) (Underlying RPS statute now technically lapsed, but Iowa law previously acknowledged the use of RECs).
- ID: IDAHO ADMIN. CODE r. 20.03.15.036 (2021) (No explicit definition exists but references renewable energy credits in the calculation of value of geothermal production).
- IL: 20 ILL. COMP. STAT. 3855 / 1-10 (2022).
- IN: IND. CODE ANN. § 8-1-37-3 (West 2023).
- KS: KAN. ADMIN. REGS. § 82-16-1 (L) (2022) (Please note that Kansas' RPS has lapsed).
- MA: 225 MASS. CODE REGS. 14.02 (2023).
- MD: MD. PUB. UTIL. CODE ANN. § 7-701 (m) (West or LexisNexis 2023).
- ME: ME. REV. STAT. TIT. 35, § 3210 (2) (B-2) (2023); 65-407-311 ME. CODE R. § 2 (J) (LexisNexis 2023).
- MI: MICH. COMP. LAWS § 460.1011 (2023).
- MN: MINN. STAT. § 216B.1691 (4) (2023).
- MO.: MO. ANN. STAT. § 393.1025 (West 2023); Mo. CODE REGS. ANN. tit. 20, § 4240-20.100 (2020).
- MT.: MONT. CODE ANN. § 69-3-2003 (14) (2005) (Underlying RPS statute was formally repealed, but Montana law previously acknowledged the use of RECs).
- N.C.: N.C. GEN. STAT. ANN. § 62-133.8 (a)(6) (West 2008).
- N.D.: N.D. ADMIN. CODE 69-09-08-02 (5) (2023) (Please note underlying RPS statute has lapsed).
- N.H.: N.H. REV. STAT. ANN. § 362-F:2 (2023).
- N.J.: N.J. STAT. ANN. § 48:3-51 (West 2023).
- N.M.: N.M. CODE R. § 17.9.572.7 (LexisNexis 2020); N.M. STAT. ANN. § 62-15-37 (C) (2020).
- NV: NEV. REV. STAT. § 704.7803 (2023); NEV. ADMIN. CODE § 704.8908 (2002).
- NY: N.Y. PUB. AUTH. LAW § 1851 (2020).
- OH: OHIO ADMIN. CODE 4901:1-40-01 (W); (BB) (2023).

- OR: OR. ADMIN. R. § 330-160-0015 (17) (2020).
- PA: 52 PA. CODE § 75.1 (2021) (note, portions of this regulation were held unconstitutional by *Hommirch v. PA Pub. Util.* 231 A.3d 127 (Pa. May 12, 2020), but the ruling does not apply to RECs)
- PR: P.R. LAWS ANN. tit. 13, § 10421 (2010).
- RI: 39 R.I. GEN. LAWS § 39-26-2 (14) (2022).
- SD: S.D. CODIFIED LAWS § 49-34A-95 (2006).
- TX: 16 TEX. ADMIN. CODE § 25.5 (107) (2023).
- UT: UTAH CODE ANN. §10-19-102 (10) (LexisNexis or West 2023).
- VA: VA. CODE ANN. § 56-585.5 (C) (2023).
- VT: VT. STAT. ANN. tit. 30, § 8002 (2020).
- WA: WASH. ADMIN. CODE § 480-109-060 (31) (2023) (Utilities using RECs to meet RPS targets can only use WREGIS RECs; utilities may not use unbundled RECs from hydroelectric projects).
- WI: WIS. ADMIN. CODE PSC § 118.02 (7R); (10) (2007) (Please note underlying RPS statute has lapsed).

⁴ *Id.*; see, e.g., CPUC D. 08-08-028 for California’s definition of “environmental attributes”, https://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/86954.pdf; WAC 480-109-060, for Washington’s definition of “nonpower attributes”, <https://app.leg.wa.gov/wac/default.aspx?cite=480-109-060>. For more information, see also Lisa Koperski, *Why the Renewable Energy Credit Market Needs Standardization*, 13 Wash. J.L. Tech. & Arts 69 (2017).

⁵ For example, for purposes of Connecticut’s RPS program, all RECs must be “issued and tracked” by its regional tracking system, the New England Power Pool Generation Information System. CONN. GEN. STAT. ANN. § 16-245a (West).

⁶ For example, Arizona provides an “in-state power plant installation extra credit multiplier” of 0.5 to utilities acquiring RECs from solar facilities installed in Arizona, such that each megawatt of power generated by in-state solar facilities is valued at one and half (1.5) RECs. RECs acquired from out-of-state facilities are still valued at one REC per megawatt of power.

⁷ For example, Illinois offers a “zero emission credit” or “ZEC” that represents the environmental attributes of one megawatt hour of energy produced by a nuclear facility. 20 ILL. COMP. STAT. ANN. 3855/1-10 (West 2020). New Jersey issues offshore wind RECs or “ORECs” to offshore wind developers.

⁸ This paper is not intended to be a comprehensive or exhaustive listing of all sources supporting the use of RECs. There may be many other specific laws, regulations, etc. that also support the key findings described.

⁹ While this document primarily describes RECs that are issued by tracking systems, RECs may be created and conveyed in contracts even if a renewable generator is not registered with a tracking system.

¹⁰ State regulations listed in n.3 cross-reference to provisions that RECs are used to track and transact the environmental attributes of renewable electricity on the grid, and include Arizona, Arkansas, California, Colorado, Delaware, Florida, Iowa, Illinois, Kansas, Massachusetts, Maryland, Maine, Minnesota, North Dakota, New Jersey, Ohio, Oregon, Puerto Rico, Texas, Utah, Vermont, and Washington state.

¹¹ State regulations listed in n.3 cross-reference to provisions that RECs represent “attributes” of generation (or similar), and include Arizona, Arkansas, California, Colorado, Delaware, Florida, Iowa, Illinois, Kansas, Massachusetts, Maryland, Maine, Minnesota, North Dakota, New Jersey, New Mexico, New York, Ohio, Oregon, Puerto Rico, Texas, Utah, Vermont, and Washington state.

¹² State regulations listed in n.3 cross-reference to provisions that RECS are mechanisms for “tracking” or “trading” (or equivalent) electricity or attributes, and include Arizona, Arkansas, California, Connecticut, Delaware, Iowa, Illinois, Indiana, Kansas, Maine, Michigan, Minnesota, North Carolina, North Dakota, Pennsylvania, South Dakota, Texas, Vermont, Washington state, Wisconsin, the District of Columbia.

¹³ State regulations listed in n.3 cross-reference to provisions that RECs represent electricity or energy “generation” (or equivalent), and include, California, Connecticut, Delaware, Indiana, Kansas, Maine, Michigan, Minnesota, Missouri, North Carolina, North Dakota, New Hampshire, Nevada, Pennsylvania, Puerto Rico, Texas, Wisconsin, and the District of Columbia.

¹⁴ State regulations listed in n.3 cross-reference to provisions that RECs are “proof of generation” (or equivalent), and include California, Missouri, Virginia, and Washington state.

¹⁵ State regulations listed in n.3 cross-reference to provisions that RECs are “property” and include Arkansas, Florida, Pennsylvania, Puerto Rico, and Vermont.

¹⁶ *Allco Fin. Ltd. v. Klee*, 861 F.3d 82 (2d Cir. 2017). See also Order Modifying Renewable Portfolio Standard Program Eligibility Requirements (authorizing the New York State Energy Research and Development Authority to limit its procurement of RECs for RPS compliance purposes to renewable energy projects interconnected to New York’s power grid), <https://statepowerproject.files.wordpress.com/2014/03/ny-psc-order-05-23-13.pdf>.

¹⁷ IOWA UTIL. BD. AEP-07-1 (2007), https://iub.iowa.gov/files/archive/orders/2007/1121_aep071.pdf; https://iub.iowa.gov/sites/default/files/documents/2021/02/1121_aep071.pdf (Order Approving Facilities and Associated Capacities, Adopting Requirements for M-RETS Participation, and Requiring Report; *In Re: Interstate Power & Light Co. & Midamerican Energy Co.*, AEP-07-1, 2007 [Nov. 21, 2007])

¹⁸ N.Y. PUB. SERV. COMM’N. CASE 03-E-0188 (2006), available at: <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={99B37D71-602B-47F1-8989-5729836A3809}>

(Order regarding Retail Renewable Portfolio Standard. Recognizing Environmental Attributes and Allowing Participation of Projects with Physical Bilateral Contracts, Issued and Effective June 28, 2006)

¹⁹ Listing of tracking systems that define their instruments as representing “attributes” of generation (or similar), See n.11.

²⁰ List of tracking systems that define their instruments as the mechanisms for “tracking” or “trading” (or equivalent) attributes or proof of generation for the purposes of compliance with state programs and/or voluntary programs:

Electric Reliability Council of Tex. (ERCOT)2005. *Glossary - R*. Electric Reliability Council of Texas, Inc. <http://www.ercot.com/glossary/r> <https://www.ercot.com/glossary#>

ERCOT. 2005. *Renewable Energy Credit*. Electric Reliability Council of Texas, Inc. <http://www.ercot.com/services/programs/rec/>

Midwest Renewable Energy Tracking Sys. (M-RETS). 2021. <https://www.mrets.org/wp-content/uploads/2021/01/M-RETS-Operating-Procedures-9-2021.pdf>.

MIRECS: MIRECS 2018 <https://mirecs.org/wp-content/uploads/sites/4/2018/11/MIRECS-Operating-Procedures-November-2018-.pdf>.

N. Am. Renewables Registry (NAR)(2018) at v, http://www.narecs.com/wp-content/uploads/sites/2/2013/10/NAR-Operating-Procedures_April_2013.pdf <http://apx.com/wp-content/uploads/2018/03/NAR-Operating-Procedures- March-2018.pdf>.

New Eng. Power Pool Generation Info. Sys. (NEPOOL-GIS) (2020). <https://nepoolgis.com/wp-content/uploads/sites/3/2022/07/GIS-Operating-Rules-Effective-7-1-22.doc>.

N.C. Renewable Energy Tracking Sys. (NC-RETS): (2011) at iii, 1, <http://www.ncrets.org/wp-content/uploads/sites/7/2014/03/NC-RETS-Operating-Procedures.docx>.

N.Y. Generation Tracking Sys. (NYGATS): (2020) RFP 3014: New York State Generation Attribute Tracking System (NYGATS). <https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Programs/NYGATS/Operating-Rules.pdf>.

PJM Interconnection Generation Attribute Tracking Sys. (PJM-GATS): (2020) *Generation Attribute Tracking System (GATS) Operating Rules*. <https://www.pjm-eis.com/~media/pjm-eis/documents/gats-operating-rules.ashx>.

Western Renewable Energy Generation Information Sys. (WREGIS) (2022) *WREGIS Operating Rules*. Western Electricity Coordinating Council. <https://www.wecc.org/Administrative/WREGIS%20Operating%20Rules%20October%202022%20Final.pdf>.

²¹ U.S. Federal Trade Commission (FTC) (November 27, 2007). Guides for the Use of Environmental Marketing Claims; Carbon Offsets and Renewable Energy Certificates; Public Workshop. Announcement of public workshop; request for public comment. Federal Register. Vol. 72, No. 227. Pg. 66095. Footnote 9. <https://www.govinfo.gov/content/pkg/FR-2007-11-27/pdf/FR-2007-11-27.pdf>

²² EPA Green Power Partnership, Offsets and RECs: What's the Difference (Feb. 2018), avail. at https://www.epa.gov/sites/production/files/2018-03/documents/gpp_guide_recs_offsets.pdf.

²³ U.S. Commodity Futures Trading Commission (CFTC). (August 13, 2012). Further Definition of "Swap," "Security-Based Swap," and "Security-Based Swap Agreement"; Mixed Swaps; Security-Based Swap Agreement Recordkeeping; Final Rule. Federal Register. Vol. 77, No. 156. pg. 48317. <https://www.govinfo.gov/content/pkg/FR-2012-08-13/pdf/FR-2012-08-13.pdf>

²⁴ *Id.* p. 48,232

²⁵ *Id.* p. 48,232

²⁶ *Id.* p. 48,233-4

²⁷ *Am. Ref-Fuel Co., Covanta Energy Grp., Montenay Power Corp., & Wheelabrator Techs. Inc.*, 105 FERC ¶ 61,004 (2003).

²⁸ *WSPP Inc.*, 139 FERC ¶ 61,061 (2012).

²⁹ *Am. Ref-Fuel Co.*, 105 FERC ¶ 61,004.

³⁰ *Am. Ref-Fuel Co., Covanta Energy Grp., Montenay Power Corp., & Wheelabrator Techs., Inc.*, 107 FERC ¶ 61,016, at P 61,043 (2004).

³¹ *Am. Ref-Fuel Co.*, 107 FERC ¶ 61,016, at PP 61,043-44.

³² *Am. Ref-Fuel Co.*, 107 FERC ¶ 61,016, at P 61,044 n.9 (2004).

³³ See EPA, *Renewable Energy Certificates (RECs)* (Apr. 2023), <https://www.epa.gov/green-power-markets/green-power-pricing#one> (last visited Apr. 17, 2023).

³⁴ See e.g., *Am. Tradition Inst. v. Epel*, Case No. 1:11-cv-00859 (Court and Date Filed); *Energy & Env't Legal Inst. v. Epel*, Civ. A. No. 11-cv-00859-WJM-BNB (Court and Date Filed).

³⁵ *Allco Fin. Ltd. v. Klee*, 861 F.3d 82 (2d Cir. 2017) (citation omitted). See also *Order Modifying Renewable Portfolio Standard Program Eligibility Requirements (authorizing the New York State Energy Research and Development Authority to limit its procurement of RECs for RPS compliance purposes to renewable energy projects interconnected to New York's power grid)*, <https://statepowerproject.files.wordpress.com/2014/03/ny-psc-order-05-23-13.pdf>.

³⁶ *In re Ownership of Renewable Energy Certificates ("RECs")*, 913 A.2d 825 (N.J. 2007).

³⁷ See *Wheelabrator Lisbon, Inc. v. Conn. Dep't of Pub. Util. Control*, No. CV054003405, 2006 WL 894895 (Conn. Super. Ct. Mar. 20, 2006), *aff'd sub nom. Wheelabrator Lisbon, Inc. v. Dep't of Pub. Util. Control*, 931 A.2d 159 (Conn. 2007).

³⁸ See *Wheelabrator Lisbon, Inc. v. Dep't of Pub. Util. Control*, 931 A.2d 159 (Conn. 2007)

³⁹ *Honeywell Int'l Inc. v. ICM Controls Corp.*, No. 11-CV-569 JNE/TNL, 2013 WL 6169671 (D. Minn. Nov. 22, 2013)

⁴⁰ *Id.* 2013 WL 6169671, at *8.

⁴¹ *Id.*

⁴² *Id.*

⁴³ 10 U.S.C. § 2911(g)(3). DOD regularly contracts for the procurement of RECs through the Installation Energy program at the U.S. Defense Logistics Agency, <https://www.dla.mil/Energy/Products/Installation-Energy/>.

⁴⁴ Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units; Final Rule, 80 Fed. Reg. 64662, 64806 (Oct. 23, 2015).

⁴⁵ EPA, Guide to Purchasing Green Power (Sept. 2018), https://www.epa.gov/sites/default/files/2016-01/documents/purchasing_guide_for_web.pdf.

⁴⁶ See Minn. Solar Energy Procurement Workshop, Renewable Energy Certificates 101 (Sept. 18, 2019), <https://www.epa.gov/sites/default/files/2020-06/documents/3.0b-solar-claims-and-renewable-energy-certificates.pdf>.

⁴⁷ The White House Council on Env't Quality, *Implementing Instructions for Exec. Order 14057, Catalyzing Clean Energy Indus. & Jobs through Fed. Sustainability* (Aug. 2022), https://www.sustainability.gov/pdfs/EO_14057_Implementing_Instructions.pdf.

⁴⁸ *Id.* p. 11-13

⁴⁹ Env't Markets Ass'n, *Glossary of Terms: Renewable Energy Credits* (last visited Apr. 17, 2023), <https://www.enviromarkets.org/What-are-Environmental-Markets>.

⁵⁰ Am. Bar Ass'n, *Master Renewable Energy Certificate Purchase and Sale Agreement 1.0* at iv (2007), <https://www.enviromarkets.org/resources/Documents/ABA%20EMA%20ACORE%20Master%20RECs%20Agreement%20v1.0.doc>.

⁵¹ 16 C.F.R. § 260.15 (2023), FTC Guides For the Use of Environmental Marketing Claims.

⁵² FTC, *Cases Tagged with Env't Mktg.* (last visited Apr. 17, 2023), <https://www.ftc.gov/enforcement/cases-proceedings/terms/1408>.

⁵³ The FTC received a petition from the Environmental and Natural Resources Law Clinic at Vermont Law School, on behalf of Vermont citizens, urging an FTC investigation into allegedly deceptive trade practices by Green Mountain Power Company's (GMP). In a letter to GMP, FTC stated "Although no findings have been made that these claims violate the law, we urge GMP in the future to prevent any confusion by clearly communicating the implications of its REC sales for Vermont customers and REC purchasers." *Letter from James A. Kohm, Assoc. Dir., Div. of Enf't, Bureau of Consumer Prot. to R. Jeffrey Behm, Esq., Sheehey, Furlong & Behm, P.C.* (FTC Feb. 5, 2015), https://www.ftc.gov/system/files/documents/public_statements/624571/150205gmpletter.pdf.

⁵⁴ Commodity Futures Trading Comm'n, *Further Definition of "Swap," "Security-Based Swap," and "Security-Based Swap Agreement"; Mixed Swaps; Security-Based Swap Agreement Recordkeeping*, RIN 3038-AD46, 97-98 (Aug. 2012)

⁵⁵ See Barkalow, Gina, Theresa Daniels, Lorraine Gonzalez, *Renewables Portfolio Standard 2006 Procurement Verification Final Staff Report*. Cal. Energy Comm'n. CEC-300-2009-006-CMF (July 2010), <https://web.archive.org/web/20111001012214/http://www.energy.ca.gov/2009publications/CEC-300-2009-006/CEC-300-2009-006-CMF.PDF>.

⁵⁶ *Letter from James A. Kohm, Assoc. Dir., Div. of Enf't, Bureau of Consumer Prot. to R. Jeffrey Behm, Esq., Sheehey, Furlong & Behm, P.C., supra* note 53, at 2-3. The 2015 FTC letter reiterated the position the FTC set forth in its 2010 proposed rule. See FTC, *Fed. Proposed Revisions to the Green Guides*, 16 C.F.R. Part 260, 63,551-607 (Oct. 15, 2010), <http://www.gpo.gov/fdsys/pkg/FR-2010-10-15/html/2010-25000.htm> (last visited April 12, 2023 PM).

⁵⁷ *Letter from James A. Kohm, Assoc. Dir., Div. of Enf't, Bureau of Consumer Prot. to R. Jeffrey Behm, Esq., Sheehey, Furlong & Behm, P.C., supra* note 53, at 3-4.

⁵⁸ "Full aggregation" means that individual attributes contained in the REC have not been sold, counted, or claimed separately and that the REC contains all legally available attributes of renewable electricity.

⁵⁹ Electric Reliability Council of Tex. (ERCOT) Sections 14.10.1 - 14.10.2 include mandatory and voluntary retirement provisions to ensure that RECs being counted for RPS compliance purposes are not also

sold/traded to third parties. ERCOT informs the Public Utilities Comm'n of Tex. (PUCT) when any retail entity fails to meet its mandatory retirement obligations. ERCOT Nodal Protocols § 14: State of Texas Renewable Energy Credit Trading Program (Jan. 2021), <https://www.ercot.com/mktrules/nprotocols/current>.

MIRECS: To ensure that double-counting does not occur, MIRECS requires that all generation projects registered in MIRECs have 100% of their output tracked by MIRECs. Registrants must notify MIRECS if part of the output was at one time registered with another tracking system. MIRECS User Guide § 3.1, <https://mirecs.org/wp-content/uploads/sites/4/2018/01/MIRECS-User-Guide.pdf>.

Midwest Renewable Energy Tracking Sys. (M-RETS). M-RETS enters cooperative agreements with other tracking systems to ensure that exported RECs are not double counted. (Section 4.6.5) M-RETS has additional policies in place to prevent double counting, including: (1) prohibiting registering entities from changing the reason that RECs are retired outside the 24-hour notice period (Section 4.2.7), and (2) requiring that generators participating in M-RETS report 100% of their generation output in M-RETS (Section 4.3). <https://www.mrets.org/wp-content/uploads/2021/01/M-RETS-Operating-Procedures-9-2021.pdf>.

N. Am. Renewables Registry (NAR): To ensure that double counting does not occur, generation projects registered in NAR must have 100% of their output or energy savings, as applicable, tracked by NAR. The NAR administrator should be notified of any prior registration with another tracking system and account holders may be required to provide documentation to prove the asset has been removed from the previous tracking system. §§ 5.1; 5.2. <http://apx.com/wp-content/uploads/2018/11/NAR-Operating-Procedures-November-2018.pdf>.

N.C. Renewable Energy Tracking Sys. (NC-RETS): Like other registries, NC-RETS prevents double counting by requiring that facilities registering with NC-RETS have 100% of their output tracked by NC-RETS (with the exception of imported RECs). The NC-RETS administrator should be notified of prior registration in another tracking system and may require documentation that facilities have been removed from the previous tracking system (Section 4.1). Facilities must provide annual attestations to continue to earn RECs eligible for renewable portfolio standard compliance, including attesting that RECs from the facility are not being remarketed. (page 35) <https://ncrets.org/wp-content/uploads/sites/7/2014/03/NC-RETS-Operating-Procedures.pdf>.

New Eng. Power Pool Generation Info. Sys. (NEPOOL-GIS): NEPOOL-GIS has a number of policies in place to prevent double counting of RECs, including: (1) upon retirement of RECs, GIS administrator will provide a mechanism for generators to inform the GIS administrator of which RECs were retired (Section 7); and (2) account holders that sell RECs to third parties must transfer sold RECs to a specific "Reserved Certificate Account" (Rule 3.5) (Operating Rules - <https://nepoolgis.com/documents/>).

N.Y. Generation Tracking Sys. (NYGATS): NYGATS prevents double counting of imported and exported energy data (Section 8.2.4) and of monthly meter adjustments for past months (Section 8.2.3). Under Section 5.2 of its operating procedures, NYGATS will issue RECs for generators that are not registered with any other certificate tracking system and that are importing energy to the NYGATS control area. <https://www.nyserda.ny.gov/All-Programs/NYGATS/Registration-Documents>.

PJM Interconnection Generation Attribute Tracking Sys. (PJM-GATS): To prevent double counting, generating units participating in PJM-GATS must have 100% of their output tracked in PJM-GATS (Section 6.3.1). Monthly meter adjustments will not be double counted (Section 8.2.3). PJM-GATS prevents double counting of imported and exported RECs through cooperative agreements with the other tracking system involved. (Section 12.5). Generators outside of PJM who create certificates within PJM-GATS must sign an affidavit that its RECs are created only in PJM-GATS. (Section 12.5) <https://www.pjm-eis.com/-/media/pjm-eis/documents/gats-operating-rules.ashx>.

Western Renewable Energy Generation Information Sys. (WREGIS). To prevent double counting, generators must attest that 100% of their generation output will be reported to and tracked by WREGIS. (Section 5.3). To prevent double counting of certificates registered in multiple tracking systems, (1) WREGIS must expressly authorize simultaneous registration and (2) the other tracking system and WREGIS will decide upon a mutually agreeable process to prevent double counting, which will be set forth in writing and will be binding upon the generating entity. (Section 5.3.5) WREGIS has protocols in place to prevent double counting of RECs transferred to WREGIS from another tracking system. (Section 5.3.6). WREGIS also has authority to use "forced retirements to protect against double-counting if

needed.” (Section 5.3.7).

<https://www.wecc.org/Administrative/WREGIS%20Operating%20Rules%20October%202022%20Final.pdf>

⁶⁰ See Edison Electric Institute, *Renewable Energy Certificates Annex to the EEI Master Power Purchase & Sale Agreement Version 1.0*, at cover page & intro. (Nov. 4, 2010), <https://www.eei.org/-/media/Project/EEI/Documents/Resources-and-Media/Master-Contract/EEI-RECs-Annex-v1.pdf?la=en&hash=7D4AA20A22A82D07DA9950D0B5BC1976F8E4CBDB>.

⁶¹ See *id.*

⁶² See *id.* at 7-9.

⁶³ See *id.* at 10-13.

⁶⁴ WSPP Inc., *WSPP Agreement*, Section on Service Schedule R Renewable Energy Certificate Transactions With and Without Energy (Aug. 26, 2022),

https://www.wspp.org/pages/documents/08_26_22_current_effective_agreement.pdf.

⁶⁵ See WSPP Inc., *WSPP Agreement*, Section on Service Schedule R Renewable Energy Certificate Transactions With and Without Energy (Aug. 26, 2022),

https://www.wspp.org/pages/documents/08_26_22_current_effective_agreement.pdf.

⁶⁶ See ISDA, *ISDA U.S. Renewable Energy Certificate Annex* (2021).

⁶⁷ See Solar Energy Indus. Ass’n (SEIA), *SAPC Residential Power Purchase Agreement (Aggregated Version)*, at 5 (May 20, 2016), <https://www.seia.org/research-resources/model-leases-and-ppas> (Last visited March 24, 2023).

⁶⁸ See SEIA, *SEIA C&I PPA, version 2.0*, at 2 (Sept. 28, 2017), <https://www.seia.org/research-resources/model-leases-and-ppas>.

⁶⁹ See Ed Holt & Ryan Wisner, *The Treatment of Renewable Energy Certificates, Emissions Allowances and Green Power Programs in State Renewable Portfolio Standards* Lawrence Berkeley National Laboratory (Apr. 2007), <http://www.cesa.org/assets/Uploads/Treatment-RECs-LBNL2007.pdf>

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