

RCEA CCE Program Energy Procurement Strategy

The following is a summary of RCEA's procurement strategy. Read the [full Energy Risk Hedging Strategy \(Appendix D\)](#).

Introduction

Through its Community Choice Energy (CCE) program, the Redwood Coast Energy Authority (RCEA) is routinely exposed to commodity price risk and volume variability risk in the normal conduct of serving the power supply requirements of its residential and business customers. Hedging is the term used for procuring fixed-price energy in advance, in the form of the following market-based products:

- Fixed price energy (also known as system power)
- Portfolio Content Category 1 Renewable Energy
- Portfolio Content Category 2 Renewable Energy
- Carbon Free Energy
- Resource Adequacy Capacity

RCEA will also enter into longer-term power purchase agreements (PPAs) pursuant to statutory requirements (e.g. SB350 mandate to procure a minimum of 65 percent of Renewable Portfolio Standard-required renewable energy under a 10-year or longer power purchase agreement or RCEA-owned resources beginning in 2021), as well as voluntary long-term resource acquisition decisions made independently by RCEA pursuant to its Integrated Resource Plan and policy goals established by its Board of Directors.

Hedging Program Goals

To help ensure long term viability for the CCE, RCEA has outlined the following Policy Goals. These goals establish metrics used for modeling and measuring risk exposures of the CCE.

- RCEA will target to maintain competitive retail rates with PG&E after adjusting for the PCIA and Franchise Fee (exit fees).
- RCEA will target during the initial years of operation to fund financial reserves with the following objectives:
 - Establish long-term business sustainability
 - Build collateral for power procurement activities
 - Establish an investment grade credit rating
 - Develop a source of funds for investment in generation and other local programs
 - Stabilize rates and dampen year-to-year variability in procurement costs
- RCEA set the following targets:
 - To procure 40 percent of its power supply requirements from renewable energy
 - To procure 80 percent of its power supply requirements from non-fossil fuel generation
 - To procure 100 percent renewable power from local sources by 2030. This long-term goal was established in the RePower Humboldt study that formed the original impetus for developing RCEA's Community Choice Energy program.

Prohibited Generation Sources

In keeping with community values identified by RCEA in developing its CCE program, neither energy nor resource adequacy (RA) will be procured from the following generation sources:

- Nuclear generation
- Coal generation
- Hydro-electric generation from existing dams on the mainstem Klamath River

Exceptions to this prohibition may be needed for occasional short-term transactions, such as procurement of replacement RA.

Hedging Targets and Strategies

Fixed Price Energy

A challenge in using renewable generating resources to meet the energy requirements of customers is that the generation profile of renewable resources often does not align with the consumption patterns of the residences and businesses consuming the electricity. Fixed Price Energy products, also called energy hedges, are used to manage the electricity commodity price risk that RCEA faces as a result of this uncertainty. Fixed price energy allows the supplier to deliver a predetermined volume of energy, at a constant delivery rate, for a fixed price. Specific to RCEA's customers, Fixed Price Energy hedges are used to provide cost certainty and rate stability.

When assessing its requirements for Fixed Price Block Energy, RCEA will forecast the monthly energy requirements of its customers each month as well as the forecasted output from resources in its portfolio. Forecast load will be determined by historical data and will be refined through time as additional load data is acquired through actual program operation. Forecasted output from resources will be based on generation forecasts provided by counterparties and may be adjusted based on observed outcomes.

RCEA will observe the following schedule when hedging its Fixed Price Block Energy Requirements.

Time Period	Hedged By	Minimum Hedge % ¹	Maximum Hedge %
Next Month	5 days prior to start	90	110
Next Calendar Year	First day of CY	70	100
CY + 1	Same day as above	50	100
CY + 2		30	100

The purpose of this time-driven hedging strategy is to achieve a reduction in variability in power supply costs by gradually increasing the amount of energy hedged as the actual date of consumption approaches. Time-driven strategies avoid the inherent impossibility of trying to consistently and accurately "time the market" when making hedging decisions.

Hedging decisions to reach targets between the minimum and maximum hedge levels will be based on price-driven or opportunistic strategies. The purpose of price-driven or opportunistic strategies is to

¹ RCEA will include the estimated amount of hedge provided to RCEA's customers by PG&E's portfolio under the current PCIA construct when calculating compliance with the hedge schedule.

capitalize on market opportunities when conditions are favorable. Opportunistic hedges may be executed when energy price levels are favorable to lowering the cost of power relative to established program goals and financial projections; alternatively, opportunistic hedges can be executed in adverse market conditions relative to financial goals in order to reduce the potential negative impact of continued upward trending commodity prices relative to established goals.

In executing this strategy, Fixed Block Energy hedges may be purchased, sold, or moved from one month to another for the purpose of maintaining hedge coverage that matches changes in forecast electric load. This includes the ability of the RCEA to purchase standard products to hedge average loads over a defined time period and then later modify its portfolio by purchasing or selling more granular products to more precisely match load.

Portfolio Content Category 1 Renewable Energy²

In order to cost-effectively meet its GHG-reduction and renewable energy goals, RCEA intends to meet a growing share of its energy supply requirements with renewable energy, a large portion of which shall be Product Content Category 1 (PCC1) renewable energy. PCC1 renewable energy is sourced from a renewable generator either located in California or from a generator that is directly interconnected to the California Independent System Operator (CAISO) or other California Balancing Authority. For example, energy procured from RCEA's local biomass generators is a source of PCC1 renewable energy.

In order to manage price risk of long-term renewable energy and to allow RCEA to prudently and methodically build a portfolio of long-term assets, RCEA intends to meet its PCC1 energy targets with a blend of short and long-term contracts. In 2018/19, this balance will include a relatively higher share of short-term contracts augmenting existing renewable purchases from local biomass generation as RCEA focuses on launching its CCE and establishing a strong financial foundation.

Beginning in the second half of 2019, if not sooner, RCEA will begin shifting its focus to longer-term PCC1 contracts, particularly for Calendar Year 2021 and beyond. This shift is necessary to comply with SB350's renewable procurement requirements, and because new renewable generating facilities typically require long-term PPAs with terms ranging from 10 to 25 years, most typically 15 to 20. As a result, RCEA's support of renewable generation may require voluntary execution of long-term PPAs beyond what is mandated by SB350. When economically feasible, RCEA will give preference to renewable generation located in Humboldt County.

RCEA's eventual goal is to reach a steady state of procurement in which it contracts for 5-7 percent of its projected annual PCC1 requirements each year via long-term contract. Doing so will (1) allow RCEA to steadily reduce its exposure to renewable energy and energy market price risks in a way similar to the time-driven, programmatic hedging approach for Fixed-Price Block Energy and (2) ensure that RCEA is in a position to make strategic procurement decisions and, if appropriate, commitments every year.

Portfolio Content Category 2 Renewable Energy

RCEA will diversify its renewable energy portfolio further by incorporating Portfolio Content Category 2 (PCC2) renewable energy purchases. PCC2 renewable energy is sourced from renewable generators located outside of California and is "firmed and shaped" for reliable delivery into California. PCC2

² See [full Energy Risk Hedging Strategy](#) for PCC1 hedging schedule, as well as schedules for other energy products

purchases are typically less expensive and shorter in term than PCC1, so they provide a cost-effective and flexible method of augmenting RCEA’s renewable energy purchases to meet renewable portfolio content commitments to customers.

Carbon Free Energy

In pursuit of its GHG-reduction and non-fossil fuel portfolio objectives, RCEA will augment its renewable energy purchases outlined above with energy purchases from carbon-free energy generating facilities, which are typically hydro-electric resources located in California that are too large to qualify as Eligible Renewable Resources (greater than 30 MW) or located outside California. Like PCC2 renewable energy contracts, carbon-free energy purchases are typically short-term, most frequently 1- to 3-years long.

In setting the above targets, it is important to note that Carbon Free Energy purchasing is a voluntary goal set by the RCEA Board. RCEA’s Board may elect to reduce the total quantity of Carbon Free Energy in RCEA’s portfolio as it balances multiple program objectives, including financial targets for reserves and retail rates.

Resource Adequacy Capacity

As a California Load-Serving Entity (LSE), RCEA is required to demonstrate both annually and monthly that it has secured sufficient energy capacity to provide for its share of California’s energy load; this capacity is referred to as Resource Adequacy (RA). RCEA has local RA requirements specific to PG&E Bay Area and PG&E Other local areas, as well as general RA requirements for Northern California, a portion of which must be Flexible RA.

RA is typically transacted via contracts that vary in length from one month to three years, and it is currently bought and sold via a bilateral market, which can not only provide for cost-effective contracting opportunities but also prove at times to be fragmented and volatile.

Delegation of Authority

The RCEA Board has explicitly delegated operational control and oversight to the Risk Management Team and Power Manager (The Energy Authority), as outlined through RCEA’s Energy Risk Management Policy. Specifically, to facilitate daily operations of the CCA, the Board is delegating transaction execution authorities shown in the table below.

Position	Maturity Limit	Term Limit	Volume Limit (MWh) ¹	ValueLimit ²
RCEA Board of Directors	Any transaction that exceeds the Risk Management Team limits			
Risk Management Team	30 Months	24 Months	500,000	\$2,000,000
Executive Director	24 Months	18 Months	375,000	\$1,000,000
TEA	18 months	12Months	250,000	\$500,000

¹Volume limit applies only to energy purchases, including index-based renewable and carbon-free energy purchases.

²Value limits apply to non-energy product transactions (e.g., Resource Adequacy).

These authorities will be applied to wholesale power activity executed outside of the California Independent System Operator (“CAISO”) markets. These limits provide both RCEA and TEA needed authorities to manage risks as they arise. Transactions falling outside the delegations above require Board approval prior to execution. Activity with CAISO is excluded from this table due to the nature of the market, where prices for activity may not be known until after transactions are committed.