

VALLEY CLEAN ENERGY ALLIANCE**Staff Report – Item 16**

TO: Board of Directors

FROM: Gordon Samuel, Chief Operating Officer

SUBJECT: Portfolio Content Category – Compliance Period 4 Discussion

DATE: September 14, 2023

Recommendations

1. Receive presentation and provide feedback on Compliance Period 4 (CP4) short term Renewable Energy Credit (RECs) procurement.
2. Based on current market conditions, authorize the use of Portfolio Content Category (PCC) 3 RECs up to the maximum amount of 10% of VCE's total portfolio

Background

California requires load serving entities (LSEs), such as VCE, to procure a minimum percentage of their load from eligible renewable resources such as wind, solar, geothermal, small hydro, etc. From a State perspective, LSEs need to procure 60% of the load from renewable energy by 2030 as outlined in SB 100. At VCE's July Board meeting the Board adopted a more aggressive target of achieving 100% renewable by 2030.

LSEs cannot wait until 2030 to show compliance but rather must achieve interim targets referred to as Compliance Periods (CP1, CP2, CP3, etc). As shown in the below in figure 1, 2021-2024 is CP4. It is important to note that LSEs are measured over the time in each CP and not an individual year, therefore the average for CP4 is 40%.

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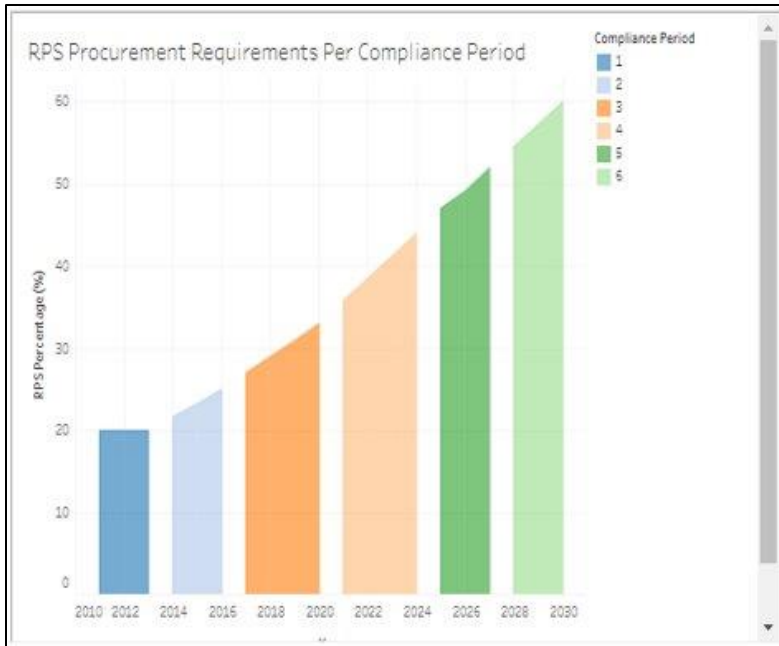


Figure 1 – RPS Procurement Requirements

The measurement of this compliance is in the form of a REC and is “retired” to show compliance. A REC contains the “Green Attributes” of a unit of energy, and represents that the energy was generated with an eligible renewable technology. One REC is equivalent to one MWh (for example, if a geothermal resource produced 50,000 MWhs in a given year, that is equal to 50,000 RECs). Finally, RECs can be purchased on a long-term basis (multiple years) or a short-term purchase is an option (for example, VCE could buy RECs for year 2023).

California also has different categories of RECs called Portfolio Content Categories (PCC):

- PCC 1: Eligible renewable resources directly connected to California’s grid (these can be either in-state or out-of-state. For example, VCE’s Fish Lake Geothermal project is located in Nevada but is directly connected to the California grid)
- PCC 2: Out of state eligible renewable resources imported into California’s grid
- PCC 3: Eligible renewable resources not brought to California’s grid (REC Only)

There are some other nuances between the categories but those are the basic distinctions. Since launch, VCE has only procured PCC1 and PCC2 RECs. During CP3, the Community Advisory Committee (CAC) and the Board had discussions on this topic of type of RECs to procure as at that time VCE had annual goals that were being met with all short-term purchases (long-term power purchase agreements (PPAs) were not yet part of the portfolio). In addition, the cost of a REC in each category was not as significant as it is today (more on the cost per REC below).

Analysis

There are several factors that influence the amount of RECs required to achieve the 40% average for CP4. VCE’s retail load can fluctuate – 2021 load was 760 GWh, 2022 load was about 740 GWh and currently 2023 load is trending below forecast. Therefore, VCE has to manage this variance with all of the tools available to it in terms of renewable procurement. The second factor to consider is the timing

of VCE’s long term PPAs coming on-line. Unfortunately, most projects tend to get delayed versus coming online early. Putah Creek was one year delayed and Resurgence was several months delayed as well. Third, renewable energy projects have variable performance after they come online: several resources are dependent on mother-nature. For example, the Indian Valley Reservoir hydro-electric facility did not generate for nearly two years due to drought, Aquamarine solar appears that it will have generated more in 2022 than in 2023. The point is, it is difficult today to set one value of RECs that VCE will need to meet compliance. Note: fast-forward a few years when all the contracted PPAs are producing energy and this will not be as difficult of an issue as the amount generated will in all likelihood far exceed the State target and VCE will have the luxury of absorbing these variabilities and can find ways to monetize its ability to absorb said variance.

VCE’s Current CP4 Renewable Portfolio

VCE’s has signed seven renewable PPAs consisting of photovoltaic (PV), hybrid (PV + storage) and geothermal of which four of the PPAs will impact CP4.

Table 1 – VCE’s Executed Long-Term Renewable PPAs That Impact CP4

| Long Term PPAs | Actual or Expected COD | Capacity* |
|--|------------------------|-------------------------------------|
| Resurgence Solar I | 8/3/2023 | 90 MW PV, 75 MW BESS (250,000 MWhs) |
| Aquamarine Solar | 9/22/2021 | 50 MW PV (130,000 MWhs) |
| Putah Creek Energy Farm | 10/15/2022 | 3 MW PV, 3 MW BESS (7,600 MWhs) |
| Willy 9 Chap 2** | 12/31/2023 | 72 MW PV, 36 MW BESS (210,000 MWhs) |
| * All BESS are 4-hour duration, except the Gibson Solar project is a 5-hour battery system. Approx annual MWhs shown. ** Formerly Willow Springs Solar 3. Name changed at the request of the CAISO. | | |

Staff is anticipating the CP4 shortfall to be in the range of 100-150 GWh depending on the abovementioned factors. Staff will continually assess the open position especially at the end of 2023 when the 2023 load is nearly finalized and the Resurgence project will have operated for several months as well as the in-service date of Willy 9 Chap 2 will be known.

Market Volatility of REC Prices

Historically, REC prices stayed relatively stable, but unfortunately that is no longer the case. At the time of VCE’s launch the spread between a PCC1 and a PCC3 REC was approximately \$15. Today that spread is \$40.

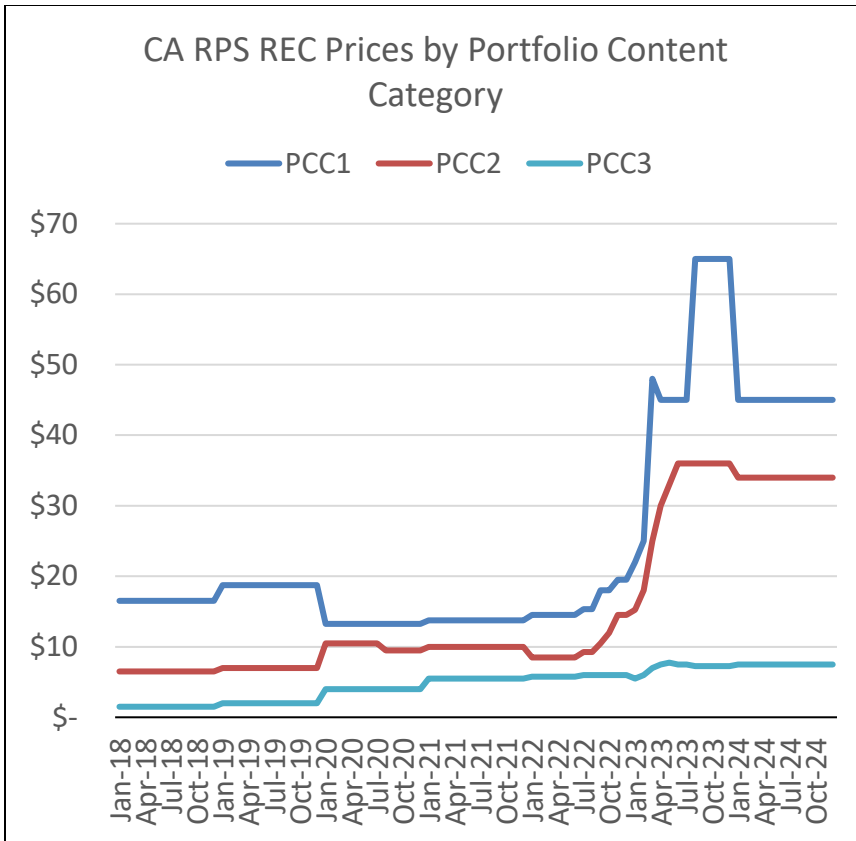


Figure 2 – REC Prices

Power Content Label (PCL)

The PCL is a backwards-looking document/graphic that identifies percentage of renewable resources an LSE used the prior year (PCL issued in October '23 for 2022 actuals). Depending on the type of REC chosen it does have some emission related information that would change. Below is an illustrative example showing how the PCC3 is accounted for.

Example A: 100,000 MWh of load, 80,000 MWh of a Solar PPA (PCC1), 10,000 MWh of Short-Term Solar PCC1

| | Adjusted Net Procured (MWh) | Percent of Total Retail Sales |
|---|-----------------------------|-------------------------------|
| Renewable Procurements | 90,000 | 90.0% |
| Biomass & Biowaste | - | 0.0% |
| Geothermal | - | 0.0% |
| Eligible Hydroelectric | - | 0.0% |
| Solar | 90,000 | 90.0% |
| Wind | - | 0.0% |
| Coal | - | 0.0% |
| Large Hydroelectric | - | 0.0% |
| Natural gas | - | 0.0% |
| Nuclear | - | 0.0% |
| Other | - | 0.0% |
| Unspecified Power | 10,000 | 10.0% |
| Total | 100,000 | 100.0% |
| Total Retail Sales (MWh) | | 100,000 |
| GHG Emissions Intensity (converted to lbs CO₂e/MWh) | | 94 |
| Percentage of Retail Sales Covered by Retired Unbundled RECs | | 0.0% |

Example B: 100,000 MWh of load, 80,000 MWh of a Solar PPA (PCC1), 10,000 MWh of Short-Term Solar PCC3

| | Adjusted Net Procured (MWh) | Percent of Total Retail Sales |
|---|-----------------------------|-------------------------------|
| Renewable Procurements | 80,000 | 80.0% |
| Biomass & Biowaste | - | 0.0% |
| Geothermal | - | 0.0% |
| Eligible Hydroelectric | - | 0.0% |
| Solar | 80,000 | 80.0% |
| Wind | - | 0.0% |
| Coal | - | 0.0% |
| Large Hydroelectric | - | 0.0% |
| Natural gas | - | 0.0% |
| Nuclear | - | 0.0% |
| Other | - | 0.0% |
| Unspecified Power | 20,000 | 20.0% |
| Total | 100,000 | 100.0% |
| Total Retail Sales (MWh) | | 100,000 |
| GHG Emissions Intensity (converted to lbs CO₂e/MWh) | | 189 |
| Percentage of Retail Sales Covered by Retired Unbundled RECs | | 10.0% |

Conclusion

Since launch in mid-2018, VCE has taken an overall approach to balance emission reduction with cost competitive customer rates. It has also continued to take a long-view in building a portfolio focused on causing renewable projects to actually be built, with regulatory compliance as an attribute and not as the primary driver. It is within this context that staff makes its recommendation to utilize PCC3 RECs as a bridge to its eminent long-term portfolio. If not for delays to on-line dates associated with this long-term portfolio that were outside VCE's control (or the developers in many cases), utilization of this type short-term resource would be greatly diminished. Based on these factors and the market conditions illustrated in Figure 2 above, staff believes it is prudent to utilize PCC1 as well as the maximum permissible amount of PCC3 in order to meet CP4 target. For two reasons staff believes all options should be used to satisfy the CP4 requirement: 1) the costs are material dollars and need to be a factor in the decision, 2) staff recognizes that there are perceived emission intensity differences that are identified on a PCL, but also realizes these are a product of the design of the accounting tool that has been created and not a reflection on what truly is occurring in the broader environment. Staff did present this topic to the CAC in August 2023 and the CAC had a robust discussion. Ultimately the CAC recognized the value of pursuing all the PCC options without restricting VCE's procurement options.