

Memorandum

To: Jason Haber, Assistant to the City Manager, City of Carlsbad

From: Pacific Energy Advisors, Inc.

Subject: Peer Review of North San Diego County Cities Community Choice Energy Technical Feasibility Study

Date: November 4, 2019

Introduction

The cities of Carlsbad, Del Mar, Encinitas, and Oceanside (collectively, the “Partners”) commissioned a study to review the feasibility of implementing a Community Choice Aggregation (CCA) program (CCA Program), which would provide electric generation service to residential and business customers within these communities. The study included various forecasts, which addressed projected revenues, costs, risks, and rates of the CCA program(s) as well as certain sensitivity analyses (addressing contingencies which could impose financial stresses on the CCA program’s base-case operating projections). A discussion of the related process, assumptions, findings and other commentary was comprehensively documented in the “North San Diego County Cities Community Choice Energy Technical Feasibility Study” (Study), dated March 28, 2019.

Pacific Energy Advisors, Inc. (PEA) was tasked with providing a peer review of the Study. PEA drew upon its experience supporting the evaluation, implementation and operation of numerous California CCA programs when reviewing key elements of the Study. This memorandum summarizes pertinent findings of PEA’s peer review (Review), including commentary related to the Study’s key inputs/assumptions, the analytical approach that was applied when completing the Study, and key conclusions that were highlighted in the Study.

Executive Summary

PEA’s review of the Study did not discover any fatal flaws that would jeopardize anticipated feasibility of the CCA Program. In general, the Study provided a comprehensive analysis of the revenues and costs that would be associated with implementation and operation of a CCA Program serving electric customers within communities represented by the Partners. Key elements of the Study, including important input assumptions and the methodological approach that was followed during Study completion, were well documented and generally mirrored similar approaches that have been followed in other professional CCA feasibility studies. The resultant pro forma operating projections for the prospective CCA program were intended to identify net financial margins that would be generated in each operating year, with sustained positive margins generally indicating the potential for feasible program operations. Key inputs reflected in the Study seemed reasonable and consistent with similar forecasts and expectations that have been referenced in work completed by PEA. In particular, projected power supply costs, the largest component of a CCA program’s anticipated operating budget, were observed to be fairly conservative (meaning somewhat higher) than PEA’s current overall power supply cost forecasts, which suggests that

eventual operating outcomes for the prospective CCA program could be somewhat better than reflected in the Study (based on current market conditions, which are subject to change). Overall cost of service projections for the prospective CCA program were noted as consistent with ranges observed for other CCA organizations. During its review, PEA observed that certain, relatively recent changes related to California’s legislative and regulatory landscape may require further consideration as the Partners continue evaluating CCA as an alternative to traditional electric services provided by SDG&E. These items include Senate Bill 350’s¹ long-term Renewables Portfolio Standard (RPS) contracting requirement, and California Public Utilities Commission (CPUC) Ruling 17-09-020’s² multi-year local resource adequacy (RA) procurement requirement. While neither item materially alters PEA’s impressions regarding CCA program viability, it is important for the Partners to be aware of resultant impacts to the resource planning obligations that pertain to CCA organizations, as neither topic was addressed in the Study. Additional detail related to each of these topics is provided in greater detail below under the “Other Considerations” section.

While the Partners were provided with four distinct governance options, this Review focuses on the Base Case scenario, which assumed that all of the Partners would proceed with the formation of a single Joint Powers Authority (the members of which would be the Partners’ respective communities) that would administer the CCA Program – this CCA governance structure has been successfully deployed in numerous regions throughout California. Key aspects of PEA’s Review were intended to address: 1) the appropriateness of key assumptions upon which the Study was based; 2) the reasonableness of noted operating projections relative to the experience of similar CCA organizations; 3) the identification of any noteworthy inconsistencies between key elements of the Study and observations derived from PEA’s direct experience launching and supporting numerous California CCAs; and 4) descriptions of any recent developments, including market-related and/or policy-related changes, that could materially alter expected operating results relative to projections reflected in the Study.

Assessment of Key Considerations

Rates

In forecasting generation and delivery rates charged by SDG&E, the Study calculated the delivery component using SDG&E’s General Rate Case filing for 2019-2021 as a starting point, with an annual escalation rate of 2% that was generally based on inflationary expectations. The forecast for SDG&E’s generation rate was based on an assumed resource mix that was comprised of market purchases and long-term renewable energy contracts. While the cost of market purchases is expected to increase over time, the Study suggests that costs associated with long-term renewable contracts are expected to decrease, resulting in a net 1% annual growth rate (in SDG&E’s anticipated generation rates) starting in 2020. Overall, both projected delivery and generation rates seem reasonable in consideration of the base year forecast and related escalation rates during the 10-year study period.

¹ SB 350 399.13.8(b): A retail seller may enter into a combination of long- and short-term contracts for electricity and associated renewable energy credits. Beginning January 1, 2021, at least 65 percent of the procurement a retail seller counts toward the renewables portfolio standard requirement of each compliance period shall be from its contracts of 10 years or more in duration or in its ownership or ownership agreements for eligible renewable energy resources.

² CPUC R.17-09-020 states that as of the 2020 compliance year, local requirements are set three years ahead and updated each year. Local requirements are further broken down into sub-local areas.

Financing Costs

The Study envisioned pre-launch financing costs of \$2 million in 2020 (consisting primarily of start-up costs), and \$14 million in 2021 for working capital. Based upon PEA's observations related to the experiences of currently operational CCAs, projected financing costs reflected in the Study seem reasonable and in alignment with our expectations. Further, the assumption to pay off debt within three years of service commencement are also in line with the experiences of other CCAs. As CCAs have become more prevalent and successful operational track records continue to build (note that two CCAs now have investment grade credit ratings), obtaining necessary funding via bank loans or other sources should not be an issue. In fact, PEA has observed that one or more financial institutions has now created a clean energy division that caters to this growing market segment.

Power Supply Cost and Operating Expense Assumptions

PEA reviewed the Study's price forecasts for the following energy products, each of which was included in projected power supply costs, the largest component of a CCA program's operating budget:

- Power purchased within the California Independent System Operator (CAISO) market;
- Renewable energy purchased under long-term power supply contracts;
- Renewable energy/renewable energy credits purchased under short-term power supply contracts;
- Greenhouse gas (GHG) free energy supply; and
- Resource adequacy capacity

On an overall basis, projected power supply costs were reasonable and tended to be conservative relative to similar projections prepared by PEA (see Table 1 below). The Study's assumptions related to market prices, long-term renewable energy prices, and short-term renewable energy prices were generally higher compared to similar forecasts prepared by PEA. GHG-free and RA prices were generally lower than those projected by PEA. After netting the offsetting impacts of these differences, there is a non-substantive impact to overall power cost estimates.

When verifying the appropriateness of such costs, PEA benchmarked the Study's "Power Supply Costs as a Percentage of Revenues" against similar ratios for PEA's CCA clientele operating within Southern California. The comparative results indicated that over the 10-year period spanning the 2021-2030 calendar years, power supply costs reflected in the Study represented 86% of projected revenues, a figure that falls well within the range of 83% - 93% which was observed for other CCA programs.

Similarly, PEA reviewed the following additional (non-power supply) operational cost components, or "other operating expenses":

- Fees related to billing and data management services;
- SDG&E fees;
- Technical Consulting and Legal fees;
- Staffing costs; and
- General and Administrative expenses

Similar to PEA’s assessment of projected power supply costs, anticipated other operating expenses were also found to be reasonable (see Table 1 below). After performing a similar benchmarking exercise for “Other Operating Expenses as a Percentage of Revenues” (net of energy costs and debt service payments), PEA determined that these projected cost estimates were also within reasonable ranges. In particular, the Study indicated an estimated average ratio of 5% (representing other operating expenses, divided by revenues), which is also in line with PEA’s expectations for this component of a CCA program’s operating budget.

Table 1: Summary of Power Supply Cost Forecasts and Ratios

2021 - 2030 Period Averages	EES Study	PEA	Notes
All-in Power Supply Cost (\$/MWh)	\$72.61	\$70.15	PEA forecast based on most recent forward curves
Power Supply Cost/Revenue	86%	83%-93%	PEA forecasted range based on similar CCAs
Operating Expense/Revenue	5%	5%	PEA forecast based on similar CCAs

Other Considerations: Potential Impacts to Resource Planning and Procurement Activities

During PEA’s review of the Study, there were several additional items that, while not critically important in determining program feasibility, will need to be addressed as the Partners continue evaluating CCA formation. There are also various ongoing efforts related to the disposition of utility power resources, including renewable energy and carbon-free supply. Such processes may result in allocations of such resources to CCAs, which could beneficially impact resource planning and procurement efforts. These items are further described below.

SB 350 Long-term RPS Requirement

SB 350 requires all load serving entities to have at least 65% of their Renewables Portfolio Standard (“RPS”) procurement mandate secured via contracts of ten years or longer during each compliance period starting on January 1, 2021. The Study does not mention this requirement, but compliance with this element of SB 350 should be included in portfolio planning.

According to the Study, the Base Case assumes an average long-term renewable energy price of \$42/MWh, and an average short-term renewable energy price of \$62/MWh. The Study assumes the exclusive procurement of short-term renewable energy for the first three years of program operation with the layering of increasing proportions of long-term renewable energy over time, growing from 10% in year 4, to 20% in year 5, and 25% in years 6 through 20. Relative to assumptions reflected in the Study, the phasing of long-term renewable energy purchases will need to occur more quickly and significantly under the requirements of SB 350, but current pricing trends within renewable energy markets suggest that longer-term purchases can be more cost effective (when compared to short-term purchases), reducing overall energy supply costs for the Partners if current market conditions continue to persist. Regarding long-term renewable energy contracting, there is some risk related to the ability of a CCA to secure such contracts in time to meet pertinent compliance deadlines. However, the multi-year compliance periods reflected in SB 350 (i.e., Compliance Period 4, which begins January 1, 2021 and continues through December 31, 2024; Compliance Period 5, which begins January 1, 2025 and continues through December 31, 2027; and Compliance Period 6, which begins January 1, 2028 and continues through December 31, 2030) are intended to promote some flexibility in achieving these long-term contracting obligations and should ease challenges of the CCA Program in meeting this compliance obligation during initial operations.

Further, any concerns related to creditworthiness of the CCA (during early-stage operations) when pursuing long-term renewable energy contracts can be effectively addressed through the implementation of various contracting/structural strategies, including lock-box structures, credit assurances, and demonstration of agreed upon debt-to-income ratios by the CCA program, amongst others.

R.17-09-020 Multi-year Local RA Requirement

CPUC Ruling 17-09-020 is a relatively recent requirement, which obligates the advance procurement of local RA in three-year compliance cycles. PEA understands that this requirement was not addressed in the Study, so the Partners should be aware of this obligation. Based on current conditions within California's RA market, securing requisite supply in multi-year cycles has become increasingly challenging and typically requires considerable coordination within the procurement function. As a mitigating factor, there currently is a compliance waiver option for local RA (for non-compliant LSEs that can demonstrate commercially reasonable attempts to procure, even though such efforts were unsuccessful). An effort is underway, spearheaded by the California Community Choice Association, to expand the waiver program for system and flexible RA as well. Finally, because the local RA requirement is effective on January 1st of the year in which a new CCA commences service, the Partners should consider an earlier 2021 launch date if economically feasible.

Greenhouse Gas (GHG) Free Allocation Work in Progress

On October 11, 2018 the CPUC issued Decision (D.)18-10-019 modifying the Power Charge Indifference Adjustment (PCIA) Methodology and opening a second phase of this proceeding to enable parties to further develop proposals for portfolio optimization and cost reduction for future consideration by the Commission. On February 1, 2019, the Commission issued the Phase 2 Scoping Memo R.17-06-26, which directed the parties to convene three working groups to further develop PCIA-related proposals for consideration by the Commission. One of the working groups, Working Group 3 (WG 3) is focused on portfolio optimization and is tasked with answering the question of "what are the structures, processes, and rules governing portfolio optimization that the Commission should consider in addressing excess resources in utility portfolios?"

One of the excess resources under consideration focuses on a proposal to allocate the investor-owned utilities' (IOU) GHG-free portfolios, which consists of large hydro and nuclear generating facilities. The draft proposal would allocate on a voluntary basis to eligible load serving entities (LSEs) their proportionate share of GHG-free resources based on their respective load (meaning, energy required to serve customers) relative to total load within the incumbent IOU's service territory. The impacts to participating LSEs, including the CCA Program would be the reduction of GHG-free energy costs due to the allocation, and potential price reductions (due to lower demand) for any additional market purchases (e.g., some LSEs may have already procured GHG-free energy and want to monetize their allocations, thereby flooding the market with supply).

Resource Adequacy Allocation Work in Progress

Also a part of WG 3's PCIA portfolio optimization efforts, the allocation of local, system, and flex RA is being considered. Allocation will be based on an LSE's forecasted monthly, peak-load share as a percentage of peak load reflected within the incumbent IOU's service territory at large. The draft proposal contemplates a mandatory allocation for local RA, and a voluntary allocation for system and flex RA. This would give new CCAs a head start on procurement and access to an RA market within which scarcity of

supply is becoming increasingly common (potential risk mitigating options including a waiver are listed above).

Renewable Energy Allocation Work in Progress

The other resource category being considered for allocation within WG 3 is the renewable energy associated with RPS contracts of the IOUs. As discussed, the RPS allocation share would be based on an LSE's annual load share as a percentage of the relevant IOU service area. The draft proposal would allow LSEs to decide whether they wish to accept all or a portion of their respective allocation. The potential benefit to newly launching LSEs like the CCA Program would be the opportunity to be allocated some RPS-eligible long-term energy from the beginning, and especially important if the CCA launch date is closer to the end of a compliance period. As stated above, the CCA Program's expected launch date in early 2021 should provide ample time to meet applicable compliance obligations focused on renewable energy procurement.

Conclusion

The Study provided a comprehensive analysis of the items that should be considered in assessing the feasibility of a newly forming CCA. The energy supply costs and operating expenses used in developing the pro forma were reasonable, as were the projected SDG&E generation and distribution rates used to determine feasibility.

Two key items to consider for further assessment and/or inclusion are compliance with SB 350's long-term RPS compliance requirements, and CPUC R.17-09-020's multi-year local RA requirements. The inclusion of the former should help reduce energy procurement costs due to the inclusion of lower-priced long-term contracts, while the inclusion of the latter would likely increase energy procurement costs from the expected increase in market prices. The overall impact of the two items may marginally alter anticipated power supply costs, but such changes are not expected to undermine the Study's findings with regard to program feasibility.

Some other items to consider are the various efforts that are under way from the PCIA Phase 2 proceedings with respect to the allocation of GHG-free energy, local, system and flex RA, and RPS attributes. The allocation of all three energy products would greatly assist all newly forming CCAs to meet their GHG-free, RPS, and RA compliance requirements. The allocation of GHG-free energy would also reduce energy supply costs both through the structure of the allocation, and the potential decrease in pricing due to reduced demand from LSEs.