

Analytical Review of the
Feasibility Study for a Community Choice
Aggregation Program in the City of San Diego

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ANALYTICAL REVIEW OF THE FEASIBILITY STUDY FOR A COMMUNITY CHOICE AGGREGATION PROGRAM IN THE CITY OF SAN DIEGO

EXECUTIVE SUMMARY

This report analyzes the Feasibility Study conducted by Willdan Financial Services/EnerNex for the City of San Diego regarding a Community Choice Aggregate (CCA). The City-commissioned Study concluded that a CCA would be feasible in terms of (1) advancing the City's climate action plans, (2) offering residents lower utility rates, (3) providing positive economic returns, and (4) creating a new City entity that would be financially sound.

The Fermanian Business & Economic Institute (FBEI) at Point Loma Nazarene University (PLNU) conducted an independent review of the Feasibility Study to determine if the report's conclusions were based on data, assumptions, methodology, and analysis that are defensible.

The Feasibility Study's finding that a CCA would be "feasible" is at best a weak endorsement, especially in light of the number of risks regarding both its benefits and costs. Our analysis finds that even this conclusion of feasibility cannot be supported on the basis of the 803-page Study.

The FBEI review found the following:

- The Study presents a Base Case for a CCA which only achieves a 51% renewable energy supply by 2035, far short of the City of San Diego's 100% goal under its Climate Action Plan.
- The CCA is unlikely to add to new renewable energy capacity at least until after a number of years when it **might** generate positive returns. Without long-term contracts necessary to develop new wind or solar facilities, the CCA would simply purchase from existing supplies. It would thus take a greater share of the nation's existing renewable energy supply, but have no effect on greenhouse gas (GHG) emissions.
- Even assuming, as does the Study, that all renewable energy purchased by the CCA, would actually create new supply, the Study overstates the amount of GHG savings the CCA would achieve by 33% under its Base Case.
- The Study shows that the CCA utility rates necessary to cover expenses would initially be higher than those available from SDG&E. It then assumes that SDG&E rates will rise by about 3% over the rest of the 10-year period through 2035 while assuming that CCA rates would remain flat or even decline. The SDG&E projections have no sound basis and the assumption that the two competing utility entities would face different pricing in the same energy commodity market is without merit.
- The Study's economic impact analysis presents the total effects of building a 10-MW solar facility. The Study then finds that such a solar system is not feasible for the City, but models it anyway for illustrative purposes. Only eleven jobs are produced, although one of them would earn an annual salary of \$2.3 million despite working just half time!
- The Study's economic analysis of the benefits of rate savings is overstated. As indicated above, such rate savings are unlikely. FBEI's modeling of these hypothetical rate savings in terms of the City's boundaries and using the generally accepted methodology in impact analysis yields just 315 jobs, which is only three-fifths of the 545 jobs claimed in the Study.

- The Study shows that the CCA would post negative net present values (NPVs) in all but two of the eleven cases investigated. One of these cases, involving a high Procurement Cost Indifference Adjustment (PCIA) shows a negative NPV of \$2.8 billion. The Study uses a discount rate of 4%. Given the large financial and other risks, a discount rate of 5% is probably more appropriate which makes most of the NPVs presented even more negative.
- The Study also shows the CCA as unable to cover its debt servicing costs for several years and sets a target that is too low. Its claim that the CCA would be solvent is questionable given the problems it could encounter in securing the working capital necessary to meet its obligations
- The Study understates the nature and magnitude of two important risks. It assesses the risk of different opt-out rates at the launch of the CCA. The true risk is not the level of the initial number of customers in the program. The risk is that growing numbers of customers will leave over time, leaving the CCA hobbled by any fixed costs or long-term commitments it may make to secure energy supplies. The Study also considers only a 10% annual increase in the PCIA. This could be a severe understatement. In 2016, PG&E saw a 90% rise in its PCIA.
- The FBEI report concludes that a CCA poses large risks to the City, which could jeopardize its financial stability and its ability to meet other funding priorities. This risk is particularly problematic in that the CCA is unlikely to achieve its objectives in terms of renewable energy, rate savings for customers, or economic benefits.
- California's legislature is expected to consider legislation that would compel all utilities to secure 100% of their energy from renewable sources in the future. This would largely obviate the purpose of a CCA without incurring the large attendant costs and risks such an entity would entail. The City should at least wait until the outcome of such legislation is known. It should also see what the California Public Utilities Commission (CPUC) determines will be the PCIA for San Diego since that decision could have a critical impact on the CCA's financial outcome. It is also important to note that the CPUC is expected to revise the methodology it uses to determine these fees.
- The City should pursue all options for achieving its 100% renewable energy goal, including those that might involve the utility and other parties. The City could negotiate with the utility, urging it to accelerate its reliance on renewable sources of energy. Alternatively, it could offer incentives to residents to participate in 100% renewable energy plans offered by the utility or other entities.

I. INTRODUCTION AND SCOPE

In July, 2017, Willdan Financial Services/EnerNex submitted a study to determine the feasibility of a Community Choice Aggregate (CCA) for the City of San Diego (the “City”). The report (the “Feasibility Study” or “Study”) concluded that a CCA would be feasible in terms of (1) advancing the City’s climate action plans, (2) offering residents and businesses lower utility rates, (3) providing positive economic returns, and (4) creating a new City entity that would be financially sound. This report reviews whether that document’s conclusions were based on data, assumptions, methodology, and analysis that are defensible.

The Fermanian and Business Economic Institute (FBEI) is part of the Fermanian School of Business at Point Loma Nazarene University (PLNU). As such, FBEI takes its objectivity and integrity extremely seriously and adheres to the highest standards of ethics required of the economics profession and the University.

This review analyzes the Feasibility Study’s conclusions in four key areas. Section II presents the fundamental conflicts in CCA objectives. Section III examines the Feasibility Study’s conclusions regarding the CCA’s role involving renewable energy and GHG. Section IV examines the Study’s assessment that the CCA would achieve cost savings for utility customers. Section V considers the Feasibility Study’s results in terms of the CCA’s economic impact and benefits. Section VI analyzes the Study’s findings in terms of the financial implications for the City. Section VII examines the risk assessment presented in the Study. Section VIII provides conclusions and recommendations.

It should be noted that because the Study’s authors would not release their spreadsheets, this review was based only on the data and commentary presented in the Study’s text, tables, appendices, and exhibits.

II. FUNDAMENTAL CONFLICTS

It is first important to understand the meaning of “feasibility.” The Merriam-Webster Dictionary defines something as feasible if it is “capable of being done or carried out” or is “capable of being used or dealt with successfully.” This is not just an academic point since determining that a CCA could “feasibly” accomplish various objectives is a far lower bar than determining that its success in accomplishing specific goals is likely or probable. City policymakers need to know how likely it is that a CCA could accomplish its intended objectives. Do the expected benefits exceed the expected costs, given the number of uncertainties surrounding those expectations on both sides?

It is also important to underscore the primary reason why a CCA could be valuable to the City. A core part of the City’s Climate Action Plan (CAP) is to achieve 100% of its energy from renewable sources by 2035. The Base Case contained in the Feasibility Study only calls for 51% of total electricity to be derived from renewable sources by that time. The 100% goal could be achieved but it would cost more than the 100% solution now offered through the investor-owned utility (IOU), which is SDG&E. In addition, there is little likelihood that a CCA would significantly increase the supply of renewable energy and thus be effective in lowering the City’s contribution to greenhouse gases (GHG).

At least under current conditions, the two objectives of a CCA are in basic conflict with each other. Communities, such as San Diego, considering a CCA hope to reduce GHG while offering lower utility rates to their residents and businesses. However, renewable sources such as wind or solar currently cost more than fossil fuels, such as natural gas.¹ Conservation or less energy

¹ Feasibility Study, p. ES-4; www.renewable-energysources.com; U.S. Department of Energy, Annual Energy Outlook, 2017

consumption is also likely to be achieved with higher rather than lower utility rates. In other words, if the goal is more renewables and more energy conservation, we need higher not lower utility rates. Policymakers and the City’s residents will need to decide which objective—GHG reduction or cost savings is more important.

III. RENEWABLE ENERGY AND GHG

The Feasibility Study presents a CCA that fails to meet the City’s CAP goal of 100% renewable energy by 2035 and overstates the GHG savings that would be achieved versus what would be assumed to occur with SDG&E. The renewable energy the Study credits the CCA as securing for San Diego is unlikely to truly add to the supply of renewables, but just shift more of that existing supply to the City, leaving the total amount of GHG released into the environment unchanged.

A. CCA’s Goals vs. CAP Objectives

The Feasibility Study considered a Base Case and four other scenarios, with the following results in terms of the percentage of utility demand that would be met by renewable sources. These percentages were assumed to be achieved in the first year of the CCA’s launch (2020) and to be held constant throughout the study period through 2035.

Base Case: 51% (derived from 50% renewable for 98% of CCA customers, with 2% opting for 100% renewable sources)

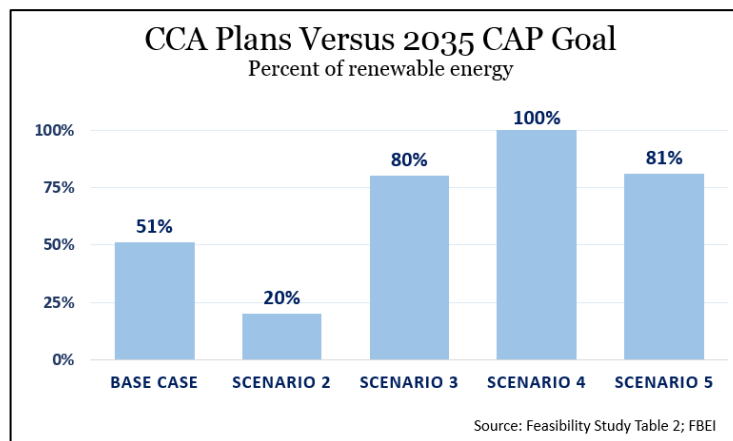
Scenario 2: 50% renewable

Scenario 3: 80% renewable

Scenario 4: 100% renewable

Scenario 5: 80.4% renewable (derived from 80% renewable for 98% of CCA customers, with 2% opting for 100% renewable sources)

Of these five scenarios, only Scenario 4 would meet the City’s CAP goal of securing 100% of its energy from renewable resources.



B. CAP and GHG Reduction

It is important to understand what formal compliance with the City’s CAP goal of 100% renewable energy can and cannot actually mean. The City’s intent is to reduce San Diego’s

contribution to GHG either by replacing fossil fuels with renewable energy or by meeting future energy demand growth by new renewable energy capacity.

The Study gives no indication that renewable energy capacity will be raised. Investors in solar or wind energy facilities require long-term (minimum 10-year) contracts with fixed prices and volumes. The Study also gives no indication that such long-term contracts will be undertaken. Only after several years, when the CCA has moved out of losses, would it be able financially to support investment in new capacity. This could be a significant problem since CCAs are required in California to meet 65% of their renewable energy requirements through long-term contracts (ten years or longer) by 2021.² By 2021 all energy utilities must supply 33% of their electricity with renewable sources (the renewable portfolio standard or RPS). This means that the CCA must secure 42% ($0.65 \times 0.33/0.51$) of its renewable energy through long-term contracts by that time. This is an issue the Study does not address.

In the absence of long-term contracts, the CCA will be purchasing renewable energy that already exists outside of the City. Thus, it will not reduce the amount of fossil fuels consumed in the country. This just means that San Diego will use more renewable energy while other communities (more focused on price) use less. As a result, there will be **no net reduction in GHG**, the ultimate objective of the City's Climate Action Plan.

The Feasibility Study calculates the reduction in global greenhouse gases under the CCA relative to what would be produced if energy were to be supplied by SDG&E. It erroneously assumes that all renewable energy will lead to less GHG. However, even with that assumption, it overstates the GHG savings by 25% to 33% under the scenarios it presents. The Study bases its calculations off a percentage of estimated SDG&E numbers.

The correct way to calculate the GHG savings would be to compute them based on the actual kilowatt hours of energy that the Study assumes will be shifted from SDG&E to the CCA. When calculated correctly, the cumulative savings over the 2020-2035 period under the scenario of a 50% use of renewables under the CCA drops from about 700 metric tons of carbon dioxide to 500 metric tons. Under the 80% renewables scenario, the savings fall from 14,000 to 11,000 metric tons. Under a progressive CCA program (not presented or modeled anywhere else in the study), the GHG savings decline from 11,000 metric tons of CO² to 8,800 tons. The discrepancies reflect the failure of the Study's authors to account for their assumption that the CCA program will be phased in over the first two years, with residential customers not being part of the program for a full year until 2022.

Green House Gas Comparison				
GHG reduction over SDG&E				
	CCA 50%	CCA 80%	CCA 100%	Progressive CCA
Feasibility Study CO ² , MMT	0.7	14.0	22.9	11.0
FBEI Calculations CO ² , MMT	0.5	11.0	18.0	8.8
Percent Difference	-33.1%	-27.45	-27.5%	-25.1%

Source: Feasibility Study Table 27; FBEI

² California Public Utilities Code, Section 399.13

C. A Lower Cost Option

SDG&E currently offers a 100% renewable energy plan to its customers (EcoChoice). Although it does not explain why, the Feasibility Study indicates that the cost of the SDG&E option would be less than under the CCA's 100% renewable scenario. In 2022, for example, CCA rates would be about 29% higher than those offered by SDG&E.

	CCA Rates	SDG&E Rates	CCA Premium
Agriculture	0.1504	0.1315	14.37%
Commercial/Industrial Small <20kW	0.1620	0.1318	22.91%
Commercial/Industrial Large >20kW	0.1639	0.1190	37.73%
Residential	0.1816	0.1326	36.95%
Residential Alternate Rates for Energy (CARE)	0.1716	0.1271	35.01%
Average	0.1668	0.1297	28.60%

Source: Feasibility Study Table 24; FBEl

This raises the question of why the City would not choose to utilize a lower cost option for consumers to achieve its Climate Action Goals. In addition, because SDG&E also employs long-term contracts to secure its renewable energy, it is actually expanding the supply of such resources and thus having an impact in decreasing GHG.

D. A Moot Point

If California passes legislation mandating investor-owned utilities to acquire 100% of their energy from renewable sources, the primary purposes of a CCA in San Diego would be nullified.

E. CCA Investments to Reduce GHG

The Study presents a picture in which the CCA would use the profits generated after several years of losses to invest in local renewable energy production, programs to encourage energy conservation and efficiency, and incentives for customers to generate their own energy through the installation of rooftop solar panels. The assumption that such profits will be produced is highly speculative given the changing dynamics of the energy markets, consumers' decisions regarding whether they remain with the CCA, and the presence of sizable fixed costs.

IV. RATE COMPARISONS

The Feasibility Study asserts that San Diego customers would benefit from lower utility rates than those offered by SDG&E, but the Study’s conclusions are based on highly questionable assumptions and faulty analysis.

A. Initial Utility Rates

The Feasibility Study shows the CCA Base Case starting out with higher rates for customers than SDG&E but then quickly turning into rate savings for CCA users.

	2022		2023		2024		2025		2026	
	CCA	SDG&E	CCA	SDG&E	CCA	SDG&E	CCA	SDG&E	CCA	SDG&E
Average \$/kWh	0.1368	0.1345	0.1368	0.1390	0.1368	0.1436	0.1368	0.1484	0.1368	0.1535
CCA Rate Premium/(Savings)		1.72%		-1.55%		-4.73%		-7.83%		-10.85%
Annual Percent Change in Rates			0.0	3.3	0.0	3.3	0.0	3.3	0.0	3.4

Source: Feasibility Study Table 23; FBEI

The initial rates assumed for CCA were derived from calculations by the Study’s authors of what would be required to meet the assumed revenue requirements during the first three full years of operation.

A number of forces will affect future electricity demand in the City. To determine future demand, the Study’s authors indicate they examined historical data and used a complex methodology to statistically estimate the probabilities of various outcomes. This methodology involved various sources, data inputs, and a Monte Carlo model to forecast load volumes. The numbers presented in the analysis hold load volumes basically unchanged over the period through 2035. The Study then estimates the revenues and resulting rates necessary based on the average estimated expenses for the first three years in which the CCA program would be fully operating. These revenues and rates should have been higher to enable the CCA to meet its debt service obligations and not incur losses. The rates used at the launch of the program do not enable the CCA to be profitable until 2026. Debt service is also not adequately covered (with a financially sound minimum typically defined at 1.4) until 2026.

B. Rate Escalation

The Study contends that power costs could decline in future years and shows a slight average annual decline in unit costs of 0.9% over the 2022-26 period used for rate comparisons.³ Based on this expected performance of power costs, the Study assumes that CCA rates would hold steady over the forecast period.

³ Feasibility Study, Exhibit 1, pp. 7,9

In contrast, the Study shows SDG&E rates rising about 3.3% on average over the 2022-26 period.⁴ This projection is based on the commodity cost adjustments contained in the EcoChoice rate projections filed by SDG&E with the California Public Utilities Commission (CPUC). These EcoChoice rates only include part of SDG&E's energy portfolio. Moreover, the CPUC document explicitly says that the estimates for 20 years or even 5 or 10 years are unlikely to be accurate.⁵ The Study states that the projections are based on the average increase shown in the CPUC schedule for the five years 2018-22 and then uses that same escalation factor for the 2023-26 period.⁶

The authors state that the escalation factor they use is 2.8% and that the figure is based on the average performance of prices shown in the above document. The 2.8% increase actually appears to be the rise for only 2018 and is less than the 3.3% rise contained in the pro forma schedule for the Base Case.

There is no basis to assume that SDG&E and the CCA would not see the same percentage increase in power costs over the projection period. Both entities would be facing the same commodity markets. As a result, CCA rates would continue to be higher than those available from SDG&E.

The sensitivity analysis, which explores different paths for escalation rates for SDG&E, is also asymmetric. One case (Sensitivity 1) explores the possibility that SDG&E rates rise at the 3% pace assumed in the Base Case plus 6% each year, implying an annual rise of 9%. The other option (Sensitivity 2) looks at an alternative where SDG&E rates rise at a pace that is 2 percentage points less than the 3% pace, or at a rate of around 1%. These cases are considered despite the Study's assertion that power costs are likely to decline in the future. The sensitivity alternatives are also run with no changes in the assumptions made about the path of CCA rates. This again raises major questions about the discrepancy given SDG&E and the CCA facing the same energy markets.

V. ECONOMIC IMPACT

The Feasibility Study states that the CCA could produce economic benefits from building a 10-MW solar facility and from increasing the disposable incomes of households through rate savings. The Study cites the barriers to building such a facility in the City and does not include it in its pro forma modeling. As discussed in the prior section, the assumption of rate savings has no solid grounds. Even if the \$59.2 million is assumed as the rate savings, the methodology employed in the Study overstates the number of jobs that would be created.

A. Solar Plant

The Study models the economic impact of the construction and operation of a 10-MW solar facility comprising ten fixed-mount solar systems, each with a capacity of one MW. However, the Study states "The City is land-constrained both in terms of capacity and due to high land values. A 10-MW solar project is estimated to require between sixty to seventy acres of horizontal space (ground level or rooftop)."⁷ The Study's authors state that "Given siting and other requirements, a utility-scale solar opportunity does not appear to be feasible within the City." As a result, the

⁴ Feasibility Study, p. 68, Table 23

⁵ <http://www.sdge.com/environment/connected-to-the-sun/historical-rates-and-20-year-forecasts>

⁶ Feasibility Study, p. 65

⁷ Feasibility Study, p. 87

economic impact analysis of such a facility is included for “illustrative purposes” only and is not included in their primary analysis.⁸

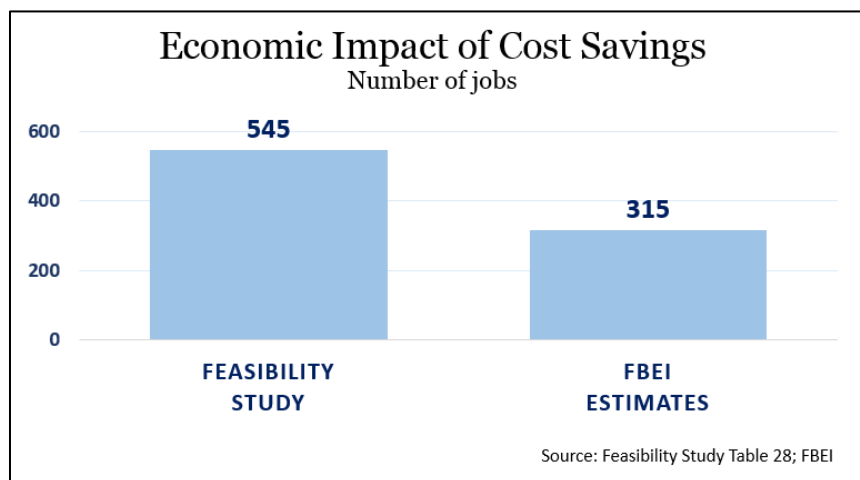
The economic impact results shown for the hypothetical solar plant are generally limited, but also questionable. Fewer than 11 (10.8) full-time equivalent (FTE) jobs would result from the operations phase even after considering all of the ripple effects of spending throughout the economy.⁹ However, one number stands out that raises questions about the methodology and analysis. One of those employees, working only half-days, would earn \$2.3 million per year¹⁰.

B. Rate Savings

The Study assumes that residents signing up for the CCA would achieve annual rate savings of \$59.2 million by 2026. This would amount to approximately \$143 per household during the year or about \$12 per month. As discussed in Section IV, such rate savings are highly unlikely and are based on faulty assumptions.

Assuming such rate savings could be achieved, the Feasibility Study claims that there would be 545 total jobs created in the City of San Diego. The Study assumed that households would use their savings on purchases from various retailers, such as grocery stores, apparel, or restaurants. It then modeled the impact after considering the multiplier or ripple effects throughout the economy. The IMPLAN model, a tool widely utilized for input-output analysis, was used to forecast the total economic impacts.

Since the CCA is for the City of San Diego, the Study should have narrowed the economic impact to only the City’s geographic confines. FBEI efforts to replicate the Study’s analysis suggest that the economic analysis was conducted for the County rather than the City. The Study’s assumption that consumers would only use their rate savings to purchase from certain retail establishments appears to have no basis. Consumers might use such savings for a variety of services, including entertainment and personal care. The common practice in the economics profession is to model increases in household disposable income as “income effects” in IMPLAN or other similar models. Restricting the total economic impact to the City of San Diego and modeling the hypothetical rate savings as income effects yields a total economic impact of 315 jobs, only about three-fifths of the 545 shown in the Study.



⁸ Feasibility Study, p. 84

⁹ Feasibility Study, p. 87

¹⁰ Feasibility Study, p. 87, Table 31

VI. FINANCIAL IMPLICATIONS FOR THE CITY OF SAN DIEGO

The Feasibility Study shows the CCA posting losses for several years for the City of San Diego under nearly all of the cases examined. The Study discounts the impact of such losses, claiming benefits that are highly questionable. Its assessment of financial liability for the City also appears to be understated in terms of the metrics used and the assessment of risk.

A. Losses and Net Present Value

The Feasibility Study presents eleven cases: the base case, four alternative scenarios, and six sensitivity cases. Most of these cases show losses for a number of years, with one of them (the high PCIA or exit fee case) showing losses generally mounting over the 2020-35 period. The Feasibility Study uses a 4% discount factor to compute net present values (NPVs). Nine of the eleven cases show negative NPVs, ranging from \$47 million to \$2.8 billion.

Given the various risks involved with the CCA and its prospect of losses, a 4% discount rate would also appear to be too low. A 5% discount rate would appear to be more appropriate. Although the higher discount rate results in a lower negative NPV for the worse case (high PCIA) because future losses are discounted more heavily, the negative NPV is still huge at -\$2.5 billion. Meanwhile, all of the other cases show worse NPVs.

Net Present Values of CCA with 4% and 5% Discount Rates 2020, millions of dollars						
	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	
4%	-48.5	19.6	-67.1	-116.3	-131.6	
5%	-56.1	6.5	-72.5	-117.3	-132.0	

	Sensitivity 1	Sensitivity 2	Sensitivity 3	Sensitivity 4	Sensitivity 5	Sensitivity 6
4%	-48.4	-48.4	-2,774.4	166.0	-46.6	-51.0
5%	-56.1	-56.1	-2,466.7	133.9	-53.8	-59.3

Source: Feasibility Study Exhibit 1; FBEI

B. Financial Solvency and Viability

The Feasibility Study sets a target of debt coverage (earnings sufficient to meet interest and principal obligations) of 1.25. Most financial analysts would assert that this is too low. A minimum is generally considered to be 1.40 to enable an entity to secure financing. The Feasibility Study also shows that in the Base Case the CCA does not even cover its debt obligations until 2026.¹¹

The prospect of a number of years of losses and the inability to meet debt obligations would make access to capital extremely hard for the CCA. The City might tax its residents to secure the financing or borrow on behalf of the CCA. The latter option could well reduce the credit standing of the City as a whole and raise its general cost of borrowing.

¹¹ Feasibility Study, Exhibit 1, pp. 7,9

The Study shows the CCA as being financially solvent in terms of the adequacy of its working capital to meet its obligations with its current assets. The ability to obtain that working capital would likely be extremely challenging, with the City finding few investors willing to assume the risk of a CCA venture.

C. Financial Costs and Benefits to the City

The Feasibility Study states that the CCA program under the Base Case (and in most of the cases analyzed) "does not make financial sense. However, the Study includes consideration of entirely different factors."¹² As discussed in Section II above, one of the primary goals of the CCA is to enable the City to achieve its CAP goals. If the City intends to truly reduce GHG through a CCA, new renewable energy sources need to be developed. With several years of losses, negative NPVs, and the inability to meet debt service obligations, the CCA is unlikely to be able to secure the financing to invest in new renewable energy capacity for at least several years. The Study claims that the positive cash flow and profits generated beginning in 2026 could be used to develop new energy sources while also encouraging energy conservation and greater efficiency. However, the prospect of such positive earnings after a decade of operation are highly tenuous given the possibility of swings in the economy, volatile energy markets, changing government regulations, shifts in consumer preference, innovations in technology, and other factors.

D. Start-Up Costs

The Study shows the large start-up costs in terms of infrastructure requirements as well as the need to establish a skilled team to interact in the energy market. The learning curve could be steep. Annual operating costs, used to calculate the rates necessary to meet revenue requirements, are estimated at \$792 million.¹³

Initial capital investments would include purchases of computers, file servers, software, office furnishings, and other equipment. The initial investment is estimated at \$300,000 on page 60. Staffing requirements would require expertise in power procurement, energy regulation, energy contracts, energy forecasting, commodity markets, and finance. Challenges and their complexity could be especially large in light of the size of the CCA proposed for the City of San Diego. As the Study emphasizes, "The Sheer size of the City CCA would be materially larger than all CCA programs in existence. In fact, based on annual load, the City CCA would be over twice the size of all the other operating CCAs, except for Peninsula Clean Energy, and nearly ten times bigger than half of the operating CCAs."¹⁴

VII. RISK ASSESSMENT

While the Study points out a number of risks, it either underestimates the magnitude of them or mistakes their true nature. This is particularly evident in two sets of the sensitivity analysis sets presented.

A. Opt-Out Rates

The Study assumes in its Base Case that 20% of the customers (all enrolled by default at the time the CCA is launched) will opt out. The Study considers in Sensitivity 5 that the opt-out rate is 25% and in Sensitivity 6 that the opt-out rate is 15%.

¹² Feasibility Study, p. ES-16

¹³ Feasibility Study, p.48

¹⁴ Feasibility Study p. ES-21

The risk to the CCA is not the initial opt-out rate. The Study shows that the biggest expense, power costs, vary with the number of customers. There are no economies of scale. In fact, the results actually show a smaller negative NPV under the higher opt-out rate of 25% than under the Base Case with an opt-out rate of 20% or Sensitivity 6 assuming a 15% opt-out rate. This suggests that there may even be some slight diseconomies of scale.

The true risk does not involve the **initial** opt-out rate. Rather than the initial rate, the risk is from **increases** in the opt-out rate after the CCA has committed to certain volumes of power purchases with a customer base that has now shrunk. This is what happened in Illinois. That state initially had 742 communities with CCAs. By June, 2016, 114 communities had disbanded their programs. Chicago began serving 750,000 households and businesses, or about two million people. As savings dissipated, customers returned to ComEd, attracted by lower rates.

Although many San Diegans highly value the environment, desire to reduce their carbon footprints, and support the City's CAP, most are still very sensitive to cost. The Feasibility Study appears to believe this is true in its assumption that only 2% would opt for 100% renewable energy when given a choice under its Base Case.

Utilities engaging in long-term contracts to secure energy will be locked into certain prices for some period of time. If technology or economic downturns cause prices to drop, they will see market rates fall below those prices. As some of the earlier contracts locked into by SDG&E expire, CCA customers could be attracted to return with the appeal of lower rates. A myriad of forces can cause rates between competing utilities to change over time, raising opt-out rates. For example, the current Administration is considering imposing import tariffs on solar panels, raising contract costs for the CCA.¹⁵ If such tariffs were cut by a subsequent Administration more intent on increasing renewable energy supplies, the CCA could be stranded with higher costs than available in the current market. This could cause customers to leave the CCA for lower rates offered by SDG&E (with less exposure to this cost). The City would be left with long-term financial liabilities.

A significant risk that greater numbers of people could leave the CCA could come from the attraction that households could find in purchasing their own rooftop solar panels. The cost of solar panels could fall over time, causing people to leave the CCA. Such households would avoid transmission and distribution costs. The simultaneous migration of SDG&E customers to their own generation systems could also raise the PCIA fees levied on the CCA.

The CPUC requires that IOUs be reimbursed for stranded costs when customers leave. The CCA does not have such authority and thus must bear the costs of any swings in opt-out rates that might occur.

B. Power Charge Indifference Adjustment (PCIA)

If the City of San Diego were to establish a CCA, other SDG&E customers would have to pay the costs incurred by SDG&E in purchasing power through long-term contracts. To prevent the concentration of those "stranded costs," the CPUC will determine the PCIA or "exit fees" that the CCA would have to pay. The Study's Base Case assumes that the PCIA will remain constant. Sensitivity 3 examines the impact of 10% increases in the PCIA each year beginning in 2020. Sensitivity 4 looks at the effects of 2.5% reductions in the PCIA each year. PCIA rates are unlikely to remain constant or decline. For PG&E, the PCIA increased from 1.21 cents per

¹⁵International Trade Commission, Section 201, Trade Act of 1974

kWh to 2.30 cents per kWh between 2015 and 2016. The CPUC is currently reviewing its formulas for deriving PCIA rates, with new policies and rates due by the end of 2018.

The strong likelihood that PCIA could be adjusted up much greater than the 10% rates used in Sensitivity 3 should be of major concern for the City. The negative NPV for the 2020-35 period under the 10%-increase PCIA case is already estimated at \$2.8 billion. Much larger PCIA increases could expose the City to alarmingly high financial liability.

One of the features commonly cited to support CCAs involves the control of local entities over rate setting. This is also a dimension mentioned in the Feasibility Study.¹⁶ The annual review and resetting of the PCIA by the CPUC removes a sizable part of that local autonomy and seriously undermines one of the tenets supporting CCAs.

VII. CONCLUSIONS AND RECOMMENDATIONS

The City of San Diego's consideration of a CCA centers primarily on its goal of deriving 100% of its electricity by 2035 from renewable sources in order to reduce the emission of greenhouse gases. CCAs typically also are formed with aspirations of reducing the rates utility customers pay.

The Feasibility Study conducted by the City to assess a CCA considers its ability to achieve CAP goals, reduce GHG, produce lower utility rates for consumers, add jobs through its economic impact, and be financially sound. This review finds that the Feasibility Study's findings in all of these aspects are not supported by reasonable assumptions, data, or analysis.

The Study's conclusion that a CCA is "feasible" can also at best be considered a weak endorsement. This is especially true in terms of the risks that the Study discusses, which appear to be understated and only the tip of the iceberg of even greater risks that the City might incur.

The City faces the likelihood of developing and owning a public entity that would saddle its residents with a large financial liability. The Study shows NPVs for a CCA generally in the red for the 10-year period through 2035, with one case displaying a negative \$2.8 billion. This could jeopardize the City's credit rating and also prevent it from meeting its other spending obligations for police and fire protection, infrastructure, and adequate funding of its pension obligations. An economic downturn over the next ten years could exacerbate these downside risks.

In light of questionable benefits, large costs, and a myriad of uncertainties, this report makes the following primary recommendations:

- The City should pursue all options for achieving its 100% renewable energy goal, including those that might involve the utility and other parties.
- It should meet and negotiate with SDG&E in order to steer the utility toward meeting the City's goal of 100% renewable energy by 2035. SDG&E's renewable energy portfolio will already likely be at least 45% by 2020 and the utility should be encouraged to accelerate its use of non-fossil fuels.
- Alternatively, if the City wants to achieve a 100% renewable energy content, it could give its residents rebates, subsidies, or other incentives to sign up with 100% plans that might be

¹⁶ Feasibility Study, p. 1

offered by various parties. The Study shows that rates for the 100% EcoChoice option under the SDG&E's existing program would be less than under a CCA 100% plan.

- The City should wait to see if the California legislature passes the anticipated legislation that would accomplish the same goals of the proposed CCA. If such a measure passes, all utilities, including SDG&E, would be required to meet the 100% renewable energy goal. This would allow the City to achieve its CAP goals without being forced to allocate resources to a redundant power purchasing entity while incurring large financial risks and liabilities.
- The City should also wait to see what PCIA or exit fee the CPUC will determine is appropriate to offset the costs SDG&E has incurred to secure renewable energy through the long-term contracts necessary for this commodity.

Establishing a CCA in San Diego cannot be done overnight. It will require assembling a team with the necessary talent and expertise, securing financing, investing in the necessary infrastructure, notifying and explaining to customers the new program and options available to them, determining the initial rates to charge customers, identifying and negotiating power purchases, and many other dimensions. Also, the CCA will have limited financial ability to enter into long-term contracts, which means that it will only primarily be purchasing existing supplies of renewable energy rather than adding to new capacity. This means there will be little or no impact on GHG.

Given the likelihood that a CCA would have no immediate positive effects and therefore no urgency, the City should wait to see the outcome of anticipated statewide legislation and the CPUC's decision on the PCIA exit fee calculation. In the meantime, the City should meet with SDG&E to see if a way can be found to achieve 100% renewable energy and truly reduce GHG without putting the City in serious financial jeopardy.