

Understanding San Diego's Path to 100% Renewable Energy



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California has demonstrated that economic growth and greenhouse gas reductions are not mutually exclusive. With more than 1.5 million metrics tons of emissions cut by 2015 paired with economic gains and 2.3 million new jobs, this state has demonstrated to the world that protecting our communities and our future does not lead to sacrifices in wealth or jobs today.

Two years ago, San Diego took the national spotlight for its commitment to source 100% renewable energy by 2035. The city is now poised to make decisions that chart the path toward this bold goal. This summary examines how we got here and what you need to know to join the conversation about where we go next.

Finding the trail

Energy and environmental protection are central to the San Diego region. Our natural assets set us apart from other American cities and bring in over 34 million tourists each year, and our thriving business and academic communities boast international leaders in defense, tech, biotech and health care. We also have challenges equally as large as our opportunities. San Diego faces a shortage of affordable housing, and **one-third of San Diego households** live in economic insecurity and are unable to afford the cost of living without public assistance.

These interests come together in a **climate action plan** (CAP), passed in 2015 by unanimous council vote, setting the city on a path to reducing its greenhouse gas (GHG) emissions to 50% below 1990 levels by 2035 and 80% by 2050 as established by Governor Schwarzenegger's **Executive Order S-3-05**.

The CAP acknowledges the inextricable linkages between energy use, environmental protection and economic growth. It aims to meet the daunting

challenges of climate change and protect our resources and citizens from the harmful impacts of pollution, while ensuring energy affordability for our most vulnerable communities and fostering economic opportunities for the region.

Climbing the mountain

The city is currently determining the best path to meet these CAP goals—specifically, how to [transition to 100% renewable energy](#) by 2035. Energy is identified in the CAP as a Phase II policy issue (2018 – 2020) with transportation, another significant emissions factor, in Phase III (2021-2035).

This current planning phase has led to a [Community Choice Aggregation \(CCA\) Feasibility Study](#) as well as a [Request for Information](#) on programs that may support or replace a CCA model to reach the city's 100% renewable energy goal. The study, like [those completed](#) by [existing CCAs](#), includes detailed analyses of electricity procurement, environmental impacts, financial viability and economic results.

CCAs allow local governments to purchase or generate electricity for residents and businesses. If preferred, customers have the option to return to the utility within certain restrictions, hence the choice. The utility partners with the CCA and continues to operate transmission and distribution services and provides billing, maintenance and repairs. At the time of publishing, there are eight operational CCAs and 10 emerging CCAs across California. This [CCA map](#) is updated weekly. Should the city elect to move ahead with community choice, San Diego would represent the state's largest CCA.

In brief, the study finds that there are potential risks and benefits to pursuing a CCA. Overall, as [local news outlets](#) have reported, the study shows the city could procure an increased amount of renewable energy at a competitive or reduced rate compared to San Diego Gas & Electric (SDG&E).

Here's a brief look at key points pulled from the 164-page [full report](#), 38-page [Executive Summary](#) and a large compendium of technical resources, all available [here](#).

Financial viability

Although the study does not provide a complete electricity rate forecast, it does establish some estimates of how a CCA would compare to SDG&E rates. As SDG&E does not publish rate forecasts, the assessment is based on publicly available information and historical data. Sensitivity analyses were applied to understand the impacts of a higher (+6% each year) or lower (-2% each year) change in SDG&E annual rates. The models do not include SDG&E's new Critical Peak Pricing or the [Time-of-Use](#) rates scheduled in 2020 for all residential customers.

Using the Base Case Scenario of 50% renewable energy content, the study shows that a CCA could fully launch in 2022 with a slightly higher rate on average, at 1.72% above SDG&E rates. However, this rate would not be passed onto customers, but absorbed by the CCA through a rate stabilization or other contingency fund to ensure comparability to SDG&E rates, a standard practice. By the next year (2023), the model shows the potential for a CCA to have rates that are 1.55% lower than SDG&E rates on average across all customer classes, continuing to decrease to 10.85% below utility rates by 2026.

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The financial analysis shows the CCA would have a negative net margin in the initial years of operation, due to the initial investment required at start up. By 2026, it shows the CCA could have positive net margins that would steadily increase year over year.

Also, starting in 2026, the analysis shows a CCA would generate surplus working capital with a net present value of \$55 million (2020 dollars) as of 2035. These funds could be used for local renewable energy, energy efficiency and other demand-side management programs that can be aligned with the city's equity commitments to assist low-income residents and economic development goals. More on this later.

Choosing to launch a CCA is a serious financial commitment that should not be taken lightly. There are financial risks associated with procuring energy and operating a CCA. Should the city proceed with a CCA, the report strongly encourages the development of business plans and risk mitigation strategies with the assistance of expert legal and financial advisers.

Economic development

The study's economic development analysis looks at two areas: disposable income based on lower electric bills and local investment in renewable energy. The analysis shows how reduced customer bills (5% average savings) leads to community reinvestment in growing businesses and creating new jobs. At the household level, the analysis assumes that some of these savings are spent on goods and services. All in all, the modeled savings show that reduced electricity rates could generate \$59.2 million in increased regional economic activity during 2026–35.

The study also looked at jobs and industry growth in local solar development using 10 one-megawatt solar PV systems as a model to consider opportunities for local renewable energy investments. It shows that this level of installations could generate 58 construction and development jobs and an additional 10 jobs throughout system operation.

Although the study notes the potential for a CCA to create local programs using surplus funds, it does not address the specific job and reinvestment impacts of these programs. The study does identify an initial list of six potential program areas including net energy metering, feed-in tariffs, electric vehicle and charging station programs, low-income programs, local generation development and GHG-reducing economic development initiatives. Should the city move ahead with a CCA, this is an area that deserves additional attention to identify potential projects and priorities for local programs.

The third level of economic impact—environmental and health benefits—are not modeled in the study.

Regulatory challenges

The city of San Diego would represent the state's largest CCA and may therefore face greater risks from regulatory changes. Of these, the Power Charge Indifference Adjustment (PCIA) represents the largest regulatory factor in the San Diego study. The PCIA is the charge assessed to a CCA for the power that a utility, SDG&E in this case, committed to purchase for their customers

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but is no longer needed with the switch to a CCA. It is a fee set by the California Public Utilities Commission (CPUC) to ensure fairness for both CCA customers and those who opt out and choose to stay with the utility.

This fee represents a considerable percentage of the rates modeled for San Diego CCA customers. As the models show, a drastic increase in these fees would negatively impact the financial viability of a CCA. To examine this risk, the study provides a “high case” scenario that is meant to show an extraordinary increase in these fees by adding +10% to the Base Case projection starting in 2020, then adding an additional 10% for each year thereafter. The low-end sensitivity analysis takes the Base Case projection and reduces the fee -2.5% in 2020, then -2.5% for each year after. These high and low cases are meant to help us understand the impact of major swings in costs. The Base Case analysis already includes an escalating annual increase in PCIA costs for 2018–19 based on SDG&E’s [published tariffs](#) and the estimated [PCIA forecast](#) for 2020–37.

However, given that the PCIA is meant to ensure that the utility is “made whole” for its contracts, it is only in place for a limited time. The PCIA, as currently scoped, expires after 10 years, and customers would no longer pay this fee within their electric rate.

The CPUC recently opened a [rulemaking](#) on the PCIA that may cover improved transparency of the current methodology, changes to improve stability and certainty of the methodology and its results, and alternatives to the current PCIA. No timeline for a decision has been provided, and it is anticipated that these conversations will evolve over a period of years, especially given the CPUC’s many complex and competing proceedings.

Realizing GHG reductions

Of course, a primary goal in reaching 100% renewable energy is reducing GHG emissions. The comparison of renewable portfolio content (RPC) looks at the CCA ramp up to 100% renewable energy by 2035 and SDG&E’s ramp up to 50% RPC by 2030 to meet SB 350 targets. This analyses shows that with its increasing renewable energy supply toward 100%, a CCA could reduce carbon emissions by an additional 11 million metrics tons, a 48% reduction over the 50% SB 350 target.

What’s next?

It is anticipated the feasibility study will come before San Diego City Council and the mayor this fall, first in the Environment Committee and then at a council hearing in early 2018. Our community leaders will determine if a CCA meets the criteria set forth in the climate action plan (GHG emissions reductions, economic development, financial viability and environmental benefits) and whether it represents the best path forward for the city to get to 100% clean energy by 2035.

The council and mayor also may review other proposals to get to the 100% renewable energy and economic development goals. SDG&E may elect to provide an alternate plan for meeting the city’s targets. The utility already provides a 100% renewable energy option to an estimated 1% of customers

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through the [EcoChoice](#) program and will need to ramp up to 50% renewable energy through the [Renewable Portfolio Standard](#) (RPS) by 2030, as required by SB 350. Another statewide proposal, [SB 100](#), is working its way through the legislature and subject to change. If passed in its current form, this bill would require utilities to increase their RPS target to 60% by 2030.

There's a rich discussion to be had about the various ways to value different types of renewable energy in each of these options based on location, scale, improved reliability and GHG emissions reductions. For the in-depth goods on this, I suggest the University of San Diego's [EPIC Policy Blog](#) and pages 26–29 in the [CCA feasibility study](#).

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For more information on CSE policy initiatives, visit www.energycenter.org/policy or contact policy@energycenter.org.

Center for Sustainable Energy

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