DESERT COMMUNITY ENERGY

Desert Community Energy
Board Meeting Agenda
Monday, July 16, 2018
2:30 p.m.

Coachella Valley Association of Governments
73-710 Fred Waring Drive, Palm Desert
Suite 200 Conference Room
(760) 346-1127

THIS MEETING IS HANDICAPPED ACCESSIBLE.
ACTION MAY RESULT ON ANY ITEMS ON THIS AGENDA.

1. CALL TO ORDER

2. ROLL CALL

A. Member Roster P3

3. PUBLIC COMMENTS

This is the time and place for any person wishing to address Desert Community Energy on items not appearing on the agenda to do so.

4. BOARD MEMBER / DIRECTOR COMMENTS

5. CONSENT CALENDAR

A. Approve minutes of June 18, 2018 Desert Community Energy Board meeting P4

B. **Adopt by motion the following Desert Community Energy Financial Policies:** P7

1) Policy #18-10 Financial Reserve
2) Policy #18-11 Delinquent Accounts, Collections and Bad Debt
3) Policy #18-12 Rate Setting
4) Policy #18-13 Budget and Accounting

6. DISCUSSION / ACTION

A. **Update on Progress**– Tom Kirk

Information only.

B. **Desert Community Energy 2018 Integrated Resource Plan** P14
– Katie Barrows

RECOMMENDATION: Approve Resolution 2018-03 approving the Desert Community Energy 2018 Integrated Resource Plan and authorize the Executive Director to make any changes and complete all actions necessary for submittal to the California Public Utilities Commission.

C. **Net Energy Metering program for Desert Community Energy** P45
– Benjamin Druyon

Information only.

7. INFORMATION

1) Attendance Roster P47
2) Legislative Update

8. ANNOUNCEMENTS

The next Board Meeting of Desert Community Energy is scheduled for August 20, 2018 at 2:30 p.m.

9. ADJOURNMENT

ITEM 2A

DESERT COMMUNITY ENERGY

Board Meeting

July 16, 2018

Desert Community Energy Board Members	
City of Cathedral City	**Shelley Kaplan, Chair** Councilmember
City of Palm Desert	**Sabby Jonathan, Vice Chair** Mayor
City of Palm Springs	**Geoff Kors** Councilmember

Ex-Officio / Non-Voting Members	
City of Desert Hot Springs	Vacant

Staff
Tom Kirk, Executive Director
Katie Barrows, Director of Environmental Resources
Erica Felci, Governmental Projects Manager
Benjamin Druyon, Management Analyst

ITEM 5A

DESERT COMMUNITY ENERGY

Board Meeting Minutes

June 18, 2018

1. CALL TO ORDER

The meeting of the Desert Community Energy Board was called to order by Chair Kaplan at 2:30 p.m. on June 18, 2018.

2. ROLL CALL

Roll call was taken and a quorum was present.

Members Present	Agency
Councilmember Shelley Kaplan, Chair	City of Cathedral City
Councilmember Kathleen Kelly	City of Palm Desert
Councilmember Geoff Kors	City of Palm Springs

Others Present	
Ryan Stendell	City of Palm Desert
Jeff Fuller (teleconference)	The Energy Authority/TEA
Don Dame (teleconference)	Consultant
Kim Floyd	Sierra Club

Ex-Officio / Non-Voting Member Absent	
Vacant	City of Desert Hot Springs

CVAG Staff
Tom Kirk
Katie Barrows
Benjamin Druyon
Erica Felci
Linda Rogers

3. PUBLIC COMMENTS

Kim Floyd addressed the DCE Board regarding setting up an advisory council and accessing public benefit funds for local use. He encouraged DCE cities to adopt a 100% carbon-free energy option. Chair Kaplan responded that Palm Springs has already voted to adopt 100% carbon-free energy and Cathedral City will be discussing this at their next council meeting on July 11.

4. BOARD MEMBER / DIRECTOR COMMENTS

Councilmember Kors discussed the need to clarify the energy savings under DCE as 3% of the generation charges. The Board also discussed encouraging larger public entities and other agencies to opt up to DCE's 100% Carbon Free option.

5. CONSENT CALENDAR

IT WAS MOVED BY COUNCILMEMBER KELLY, SECONDED BY COUNCILMEMBER KORS, TO:

A. Approve minutes of May 21, 2018 Desert Community Energy Board meeting

B. Approve the 1st Amendment to the cost-sharing agreement with Western Riverside Council of Governments and Los Angeles Community Choice Energy for legal services related to the Power Cost Indifference Adjustment, Resource Adequacy, and related regulatory matters, to increase the budget to $130,000, with a CVAG (DCE) share not to exceed $43,333.

C. Approve Amendment #1 to the Consulting Services Agreement between CVAG and Don Dame to provide implementation and operations support for Desert Community Energy, for a not to exceed amount of $30,000.

THE MOTION CARRIED WITH 3 AYES.

Councilmember Shelley Kaplan	**AYE**
Councilmember Kathleen Kelly	**AYE**
Councilmember Geoff Kors	**AYE**

6. DISCUSSION / ACTION

A. Update on Our Progress

Tom Kirk provided an update on the DCE's progress.

B. Desert Community Energy Fiscal Year 2018/2019 Budget

Don Dame presented the budget and indicated that corrections needed to be made on pages 18 and 26 of the staff report. Page 18 - Figure 1: the pie chart should indicate FY 2018/2019 DCE Budget; and on page 26, paragraph at the top should read ". . . FY 18/19 residual balance. . .", and inside the pie chart should read FY 2018/2019 DCE Budget. Corrections were noted, and Mr. Dame responded to questions from the Board.

IT WAS MOVED BY COUNCILMEMBER KORS, SECONDED BY COUNCILMEMBER KELLY, TO APPROVE RESOLUTION 2018-02 ADOPTING THE 2018/2019 FISCAL YEAR ANNUAL BUDGET.

THE MOTION CARRIED WITH 3 AYES.

Councilmember Shelley Kaplan	**AYE**
Councilmember Kathleen Kelly	**AYE**
Councilmember Geoff Kors	**AYE**

C. Approve Net Energy Metering program for Desert Community Energy

A conservative approach to implementing a NEM program was discussed, considering the variables with the PCIA and shifting energy market.

IT WAS MOVED BY COUNCILMEMBER KELLY, SECONDED BY COUNCILMEMBER KORS, TO APPROVE THE NET ENERGY METERING (NEM) PROGRAM THAT IS EQUAL TO SOUTHERN CALIFORNIA EDISON'S NEM PROGRAM FOR EXISITING AND FUTURE SOLAR CUSTOMERS, WITH THE OPTION TO REVIEW A MORE ROBUST PROGRAM IN THE FUTURE.

THE MOTION CARRIED WITH 3 AYES.

Councilmember Shelley Kaplan	AYE
Councilmember Kathleen Kelly	AYE
Councilmember Geoff Kors	AYE

7. INFORMATION

1) Attendance Roster
2) Legislative Update
    a. AB 813
    b. Other items
3) General Assembly flyer

8. ANNOUNCEMENTS

Upcoming Meetings at 73-710 Fred Waring Drive, Suite 200, Palm Desert

Next Board meeting of **Desert Community Energy** – **Monday, July 16, 2018 at 2:30 p.m.**

Upcoming Meetings at Agua Caliente Casino Resort, 32-250 Bob Hope Drive, Rancho Mirage

- Executive Committee – Monday, June 25, 2018 at 4:30 p.m.
- General Assembly – Monday, June 25, 2018 at 6:00 p.m.

9. ADJOURNMENT

The meeting adjourned at approximately 3:25 pm.

Respectfully submitted,

Linda Rogers

Linda Rogers
Program Assistant II

ITEM 5B

DESERT COMMUNITY ENERGY

Board Meeting
July 16, 2018

Staff Report

Subject: **Adoption of Financial Policies**

Contact: Katie Barrows, Director of Energy & Environmental Resources (kbarrows@cvag.org)

RECOMMENDATION: Adopt by motion the following Desert Community Energy Financial Policies:

1) Policy #18-10 Financial Reserve
2) Policy #18-11 Delinquent Accounts, Collections and Bad Debt
3) Policy #18-12 Rate Setting
4) Policy #18-13 Budgeting and Accounting.

BACKGROUND: As DCE approaches launch, the adoption of administrative and financial policies will help ensure smooth operations consistent with California State law, CPUC/CCA regulatory requirements and operational best practices. Staff is proposing four financial policies for Board approval at its July Board meeting. A brief summary of each policy is provided below. Please see attached for full text of each policy.

1) Policy #18-10: Financial Reserve Policy
This policy establishes target operating reserves and potential uses of reserve funds consistent with current CCA best practices. Staff recommends that reserve levels be reviewed annually to assess attainment of goals, and subject to actual revenue/cash flow experience. Any Financial Policy changes are subject to Board approval.

2) Policy #18-11: Delinquent Accounts, Collections and Bad Debt Policy
This policy establishes DCE's processes and thresholds with respect to delinquent customer accounts, collections, potential return of service to SCE, and minimum budget reserves to cover bad debt (i.e. uncollected fees). This policy will be posted to DCE's website.

3) Policy #18-12: Rate Setting
This policy sets forth DCE's rate setting guidelines and processes.

4) Policy #18-13: Budget and Accounting
This set of policies sets forth DCE's budgeting and accounting guidelines and practices to assure long-term DCE financial viability and sound fiscal management in accordance with California law and operational best practices.

ATTACHMENTS:

1. DCE Policy Documents as listed above.

POLICY #18-10

Financial Reserve Policy

Subject: Guidelines for DCE reserve fund accumulation and utilization with respect to actual and projected operating surpluses subject to annual review and adjustment by the Board of Directors.

Reserve Policy:

Establishing operating reserves that build over time is a critical component of enterprise risk management, prudent fiscal management, contingency planning and implementation and funding of long-term program goals.

This reserve policy is intended to align with requirements set forth by DCE's procurement agent, The Energy Authority, and is subject to annual review and adjustment coincident with DCE's fiscal year budget approval process. Such reserve balances are established as an unrestricted fund sourced generally from excess revenues over expenditures, unrestricted one-time revenue occurrences, and other available funds as may be deemed appropriate and proper by the DCE Board to augment DCE reserve accumulation. Such reserve balances may include the currently designated threshold of 0.300% of total revenues to be set aside for bad debt (see related policy) subject to approval by the Board. This policy may be reviewed and modified at the Board's discretion from time to time in consultation, as applicable, with DCE's Executive Director, service providers, procurement agents, and banking/financial advisors.

Reserve Target Levels:

This policy establishes an initial operating reserve accumulation target equal to 30% (120 days operating capital) to 40% (150 days operating capital) of the most current Board approved DCE operating budget, including power supply, within the first 3 years of operations. The target reserve accumulation will increase to 50% (180 days operating capital) of the most current Board approved DCE operating budget by the end of DCE's 6th year of operation. Contributions to achieve these targets are subject to actual revenue and cash flow streams, prevailing conditions of business necessity, then existing financial obligations, and other relevant factors as may be determined by the Board. The targeted maximum reserve balance is 75% (270 days operating capital) of the most current Board approved DCE operating budget.

Use of Reserves:

Use of reserves shall be recommended by DCE's Executive Director and is subject to approval by the Board of Directors. Any recommendation for use of reserves shall include a proposal for the replenishment of such reserves within two fiscal years, or other time period as approved by the Board. Primary reserve fund uses include but are not limited to:

1) Meeting mandated regulatory and or operating depository requirements when other sources of funds are not available;
2) Credit support for power purchase arrangements;
3) Meeting financial obligations during periods of business necessity;
4) Rate stabilization to mitigate power price shocks, market volatility or regulatory changes;
5) Temporary operating financial resources in the event of an economic downturn or other emergency situations preceding expense reductions, rate adjustments, and/or other corrective actions;
6) Covering temporary operating shortfalls instead of incurring new debt;
7) Local power programs/projects requiring credit backing or short-term infusion of capital;
8) Other uses as deemed necessary and prudent by the DCE Board.

If reserve funds exceed target levels, the Board of Directors may use excess funds for capital improvements, financing programs, paying down existing debt, rate reductions and/or other strategic purposes.

Reporting

Reserve levels will be monitored during each fiscal year and reported no less frequently than quarterly in financial reports provided to the Board.

POLICY #18-11

Delinquent Accounts, Collections and Bad Debt Policy

Subject: Delinquent Accounts, Collections and Bad Debt Policy

Delinquent Accounts:
DCE accounts, whether Residential or Non-Residential, identified in the monthly aging accounts receivable report, as provided by SCE, with outstanding balances over 90 days are eligible to be returned to SCE service.

Residential Accounts: Desert Community Energy customer accounts exceeding $200 in charges overdue for more than 90 days will be sent a late payment notification by DCE. Such customer(s) will be noticed and provided 60 days to pay in full or to make other payment arrangements acceptable to DCE. If payment in full is not received within 60 days from the date of notification, or terms of an activated payment arrangement are not fulfilled, the DCE customer account may be closed and returned to SCE bundled generation service on the next account meter read date. Residential customers returned to SCE will be charged any applicable DCE opt-out fee and are subject to applicable terms and conditions imposed by SCE for return of service.

Non-residential Accounts: Non-residential customer accounts exceeding $400 in aggregate unpaid charges for 60 days or more will be sent a late payment notification by DCE. Such customer(s) will be provided 30 days to pay in full or to make other payment arrangements acceptable to DCE. If payment in full is not received within 30 days of the date of notification, or the terms of an activated payment arrangement are not fulfilled, the DCE customer account may be closed and returned to SCE bundled generation service on the next account meter read date. Non-residential customers returned to SCE will be charged any applicable DCE opt-out fee and are subject to applicable terms and conditions imposed by SCE for return of service.

Collections:
Closed Desert Community Energy customer accounts with overdue amounts greater than $50 may be referred to a collection agency. Amounts of $50 or less may be written off. If SCE closes delinquent customer accounts, these accounts are also simultaneously closed in the DCE program. In these cases, the thresholds outlined in the preceding paragraphs apply in either referring closed accounts to collections or writing off balances. Collection agencies retained by DCE shall be vetted to ensure all consumer protection laws are strictly followed.

Bad Debt:
DCE shall include an annual budgetary reserve for bad debt. The reserve shall initially be established at 0.300% of revenues. Thereafter, on an annual basis and subject to actual collections experience, DCE's bad debt reserve percentage may be modified appropriately as part of the annual budget approval process.

POLICY #18-12

Rate Setting Policy

Subject: Guidelines for DCE Rate Setting

Policy:

The management and administration of Desert Community Energy (DCE), a California joint powers authority, is being undertaken on behalf of its participating members by the Coachella Valley Association of Governments (CVAG) pursuant to its authority under its charter. DCE rates are to be set at least annually and in accordance with its fiscal year budget process, by the DCE Board of Directors after one or more public hearings.

The DCE Board will adopt budgets and establish cost-based retail rates for its electric generation service that provide revenue sufficient for the continued financial health of Desert Community Energy. Ratepayer revenues will support DCE program operations including maintaining revenues necessary to meet operating costs, reserve targets, debt repayment, and DCE's obligations under its power supply and other contracts, including future programs and projects.

DCE proposed budgets, rates, fees, and any other projected charges will be presented by DCE staff to the Board at least two months prior to adoption. In setting rates for DCE, the DCE staff and Board will endeavor to maintain competitive rates, to review and account for utility PCIA charges, and to avoid excessive rate volatility. DCE rates will be reviewed annually for the upcoming fiscal year and adjusted, as needed or determined by the Board, to ensure sufficient revenue to meet all contractual, operating, legal and regulatory obligations, while providing for ongoing program fiscal viability.

POLICY #18-13

Budget and Accounting Policies

Subject: Guidelines for Agency Budgeting and Accounting Controls

Budget Policies:

1. The DCE Executive Director shall prepare and submit to the DCE Board of Directors a draft proposed Budget for the next following fiscal year two months prior to the end of the then current fiscal year. DCE's Budget shall be in alignment with established DCE goals and shall reflect all DCE activities, including operating and capital programs, revenues and expenditures. DCE's budget shall be approved by the Board at a public meeting occurring not later than during the month immediately preceding the start of the respective fiscal year.

2. DCE's budget process, accounting practices and finances shall be kept separate from CVAG's budget process, accounting practices and finances.

3. DCE's annual budget shall be balanced. A balanced budget exists when total projected revenues are greater than or equal to total projected expenditures. Total revenues shall include all revenues from retail and wholesale sales of electricity, return on investments and withdrawals from reserve funds. Total expenditures shall include all operating expenses, capital programs, and contribution to reserve funds. Any increase in expenditures and or decrease in revenues that would cause the budget to become imbalanced and would require a budget revision is subject to Board approval. Any year-end surplus will be used to maintain or augment reserve levels with the balance available for programs and capital projects, debt reduction and/or one-time-only expenditures.

4. Once operational, long-term debt or bond financing shall not be used to support program operating expenses. Total annual debt service expense shall not exceed 10% of operating revenue unless otherwise approved by the Board. The percentage of debt service shall be reviewed annually.

5. Staff and relevant service providers will annually, as part of DCE's budget process, prepare a five-year financial forecast of revenues and expenditures for all operating funds, programs and capital projects. The forecast shall be used as a planning tool in developing the following year's budget.

6. The DCE Executive Director shall submit revenue and expenditure projections to the Board of Directors on a quarterly basis unless there are material changes in those projections, in which case the Board of Directors will be informed at the next Regular or Special Meeting of the Board.

7. Any expenditure in excess of the authorized total DCE Budget shall require prior approval by the Board of Directors. The Executive Director may, if he/she deems such excess budget expenditure to be a timely business necessity, authorize such expenditure and report the amount and justification for such expenditure no later than the next regularly scheduled Board meeting. The Executive Director shall establish procedures to ensure that proper controls are implemented for all DCE expenditures.

Accounting Policies:

1. DCE will establish accounting practices that conform to Generally Accepted Accounting Principles (GAAP) for governmental entities.

2. An independent firm of Certified Public Accountant (CPAs) shall perform an annual financial audit and an official comprehensive annual financial report (CAFR) shall be issued no later than 6 months following fiscal year-end.

3. A management letter, the by-product of an annual audit, shall be presented to the DCE Board by the independent certified public accounting firm no later than 60 days from issuance of the Authority's CAFR. The Board shall have final approval over the audit.

4. DCE's Accounting Statements including a Balance Sheet, a Profit and Loss Statement and a Supplementary Schedule of Capital Projects shall be submitted to the DCE Board of Directors at least quarterly, or more frequently if conditions warrant or as directed by the Board.

ITEM 6B

DESERT COMMUNITY ENERGY

Board Meeting

July 16, 2018

Staff Report

Subject: **Desert Community Energy 2018 Integrated Resource Plan**

Contact: Katie Barrows, Director of Energy & Environmental Resources (kbarrows@cvag.org)

RECOMMENDATION: Approve Resolution 2018-03 approving the Desert Community Energy 2018 Integrated Resource Plan and authorize the Executive Director to make any changes and complete all actions necessary for submittal to the California Public Utilities Commission.

BACKGROUND: One of the requirements for Community Choice Aggregation programs is to submit an Integrated Resource Plan (IRP) to the California Public Utilities Commission (CPUC). This year, the Integrated Resource Plan is due on August 1, 2018. This plan provides guidance for serving the electric needs of the residents and businesses in Desert Community Energy's territory, while meeting policy objectives and regulatory requirements. A focus of the IRP is to ensure that DCE is providing enough energy to serve DCE's load and to quantify greenhouse gas emissions reduction objectives. The IRP addresses DCE's existing and planned supply commitments to fulfill regulatory mandates and voluntary procurement targets related to renewable, greenhouse gas-free (carbon-free) and conventional (non-renewable) energy.

The IRP has four primary purposes:

1. Document current procurement status for our first year of operations;
2. Quantify resource needs;
3. Articulate relevant energy procurement policies;
4. Communicate DCE's resource planning policies, objectives and planning framework to the public and key stakeholder groups

DCE's objectives in its IRP portfolio analysis are to provide a conforming portfolio to meet the CPUC's directives and to analyze an alternative, preferred portfolio that reflects the DCE Board's approved procurement goals to be 55% renewable and 100% carbon-free by 2030. For each portfolio, we estimate greenhouse gas (GHG) emissions using the CPUC's approved methodology. The preferred portfolio for DCE is detailed in the IRP. Because so little procurement has been completed, these portfolios remain largely hypothetical. As more power procurement occurs, the IRP will be informed by actual power resources.

This IRP addresses how DCE will meet the following targets by managing a portfolio of energy and capacity resources to:

- Meet California's Renewable Portfolio Standard (RPS) requirements of 29% of retail electricity sales to come from renewable energy sources in 2018. This percentage increases to 50% by 2030.

- Provide the necessary capacity reserves to meet California's Resource Adequacy (RA) regulatory requirements for load-serving entities.
- Maintain a minimum carbon-free energy content of 50% for its Desert Saver product, and 100% carbon-free for its Carbon Free product, while working towards a goal of increasing DCE's renewable and carbon-free content.

This Integrated Resource Plan is a first step to meet regulatory requirements. Since the IRP has to be submitted on the same day that DCE will begin service to customers, it is based on short-term resources. DCE has not completed long-term resource procurement; we expect significant procurement and planning activities over the next one to three years. DCE's RA procurement for 2019 is ongoing and 2019 energy procurement is planned in the fall. DCE will also comply with SB350 long-term procurement requirements. DCE anticipates that procurement will begin in early 2019, starting with procurement for power delivery beginning in 2021.

An updated IRP will be submitted in 2019. Updates to the IRP will be made in consideration of applicable regulatory requirements, DCE policy objectives, energy market conditions, anticipated changes in electricity sales, ongoing procurement activities, and any other considerations that may affect how DCE carries out its resource planning.

Staff recommends approval of the 2018 Integrated Resource Plan. Shehzad Wadalawala from The Energy Authority will be available by phone during the meeting to answer any questions.

FISCAL IMPACT: The policies set forth in the Integrated Resource Plan will direct DCE's energy procurement activities. DCE will procure resources per this plan and PCE's adopted yearly budget.

ATTACHMENTS:
1. DCE 2018 Integrated Resource Plan

RESOLUTION NO. 2018-03

A RESOLUTION OF THE BOARD OF DIRECTORS OF DESERT COMMUNITY ENERGY APPROVING DESERT COMMUNITY ENERGY'S 2018 INTEGRATED RESOURCE PLAN

WHEREAS, Desert Community Energy ("DCE") is a joint powers authority established on October 30, 2017 for the purpose of implementing a community choice aggregation program under Public Utilities Code Section 366.2.0

WHEREAS, the Board has established a set of strategic goals to guide DCE energy procurement to promote renewable energy, carbon-free energy, and greenhouse gas emissions reduction; and

WHEREAS, has ongoing commitments to fulfill regulatory requirements related to energy procurement, including submittal of an Integrated Resource Plan to the California Public Utilities Commission; and

WHEREAS, the 2018 Integrated Resource Plan has been prepared to address how DCE will meet these strategic goals and regulatory requirements by managing a portfolio of energy and capacity resources; and

WHEREAS, the Integrated Resource Plan documents DCE's current procurement status and outlines resource planning objectives and future procurement plans; and

WHEREAS, the 2018 Integrated Resource Plan was presented to the Board of Directors at a duly noticed public hearing for its consideration and approval.

NOW THEREFORE BE IT RESOLVED as follows:

1. The Board of Directors hereby approves the Desert Community Energy 2018 Integrated Resource Plan.

ADOPTED AND APPROVED by the Board of Directors of Desert Community Energy on this 16th day of July 2018.

AYES:
NOES:
ABSTAIN:
ABSENT:

_____
Shelley Kaplan
Chair, Desert Community Energy

Attest:

_____
Tom Kirk
Secretary, Desert Community Energy

Desert Community Energy

2018 INTEGRATED RESOURCE PLAN

August 1, 2018

DESERT COMMUNITY ENERGY

The POWER of choice

1. Table of Contents

1. Executive Summary

Desert Community Energy (DCE) is a Community Choice Aggregation program, otherwise known as a CCA, serving the cities of Palm Springs, Cathedral City, and Palm Desert. DCE will begin serving customers in August 2018 and is just beginning its procurement activities. As a result, while it will be able to provide service to customers in August 2018 based on short-term resources, DCE has not completed long-term resource procurement and will likely have procured limited resources to serve customers in future years at the time it submits this integrated resource plan (IRP) to the California Public Utilities Commission (CPUC).

DCE's objectives in its IRP portfolio analysis are to provide a conforming portfolio to meet the CPUC's directives in D.18-02-018 and to analyze an alternative, preferred portfolio that reflects the DCE Board's approved procurement goals: that is to be 55% renewable and 100% carbon-free by 2030.[1] For each portfolio, we estimate greenhouse gas (GHG) emissions using the CPUC's approved clean net short method. Because so little procurement has been completed, these portfolios remain largely hypothetical and rely primarily on generic resource assumptions.

For the conforming portfolio, DCE simply allocated the capacity by resource type for the reference CAISO system portfolio to DCE based on DCE's fraction of total energy within the CAISO system ("load ratio share"). For the alternative, preferred portfolio, DCE adjusted the conforming portfolio to meet its Board's procurement goals. This, essentially, involves scaling down the fossil portion of the reference system portfolio, while scaling up the renewable and carbon-free portions. Based on the results of DCE's analysis, the preferred portfolio 2030 GHG emissions are 0.011 MMT, a decrease of 96% from levels in the conforming portfolio (0.294 MMT) and well below the assigned benchmark of 0.268 MMT.

The portfolio results provided here are targeted at providing enough energy to meet DCE's load and to calculate GHG emissions. DCE expects to procure RA separately. Given the conforming portfolio resource mix is designed to meet RA requirements for the CAISO system, DCE anticipates it will provide adequate RA for all LSEs. The increased reliance on renewable generation in the preferred resource mix could require additional grid integration costs, such as through increased energy storage. DCE will monitor RA requirements and renewable RA benefits as well as storage costs and benefits and is prepared to procure additional storage above the amount in the conforming portfolio if necessary to meet RA requirements.

DCE expects significant procurement and planning activities over the next one to three years. DCE's RA procurement for 2019 is ongoing and 2019 energy procurement is planned in the fall. DCE will also comply with SB350 long-term procurement requirements. DCE anticipates that procurement will begin in early 2019, starting with procurement for power delivery beginning in 2021.

In addition, expected Board agenda items in the near term, include the following:

- Consideration of alternative rate designs and NEM enhancements to encourage further distributed generation. Feed-in tariffs for local renewable generation will also be considered.

[1] These goals will be reviewed as procurement progresses and may change in the future.

- Developing new energy efficiency programs that enhance, but do not duplicate, existing programs
- Adopting procurement guidelines for improving service to and providing economic development opportunities for local disadvantaged communities

Longer term, the Board also intends to consider new programs for demand response, electric vehicles, building electrification, and energy storage.

DCE will report on its progress with these activities in future IRPs and provide a more refined preferred portfolio, reflecting actual long-term contracts.

2. Introduction

a. Desert Community Energy

DCE is a Community Choice Aggregation program, otherwise known as a CCA, serving the cities of Palm Springs, Cathedral City, and Palm Desert. DCE is governed by a board of directors that includes an elected representative from each participating city. DCE is a public joint powers agency located within the geographic boundaries of Riverside County, formed in 2017 for the purpose of offering rate savings to electricity customers and developing and implementing sustainable energy initiatives that reduce energy demand, increase energy efficiency, and advance the use of clean, efficient and renewable resources available in the region.

DCE will begin serving customers in August 2018. While DCE has successfully reached agreement with SCE on meeting resource adequacy (RA) requirements and will be able to procure the necessary energy to serve customers at that time, the need to complete this integrated resource plan (IRP) prior to initiating DCE's service to customers presents several challenges.

First and foremost, DCE is just beginning its procurement activities. As a result, while it will be able to provide service to customers in August 2018 based on short-term resources, DCE has not completed long-term resource procurement and will likely have procured limited resources to serve customers in future years at the time it submits this IRP to the CPUC. Thus, while DCE believes its planned procurement of resources for the future to be reasonable, its projected future resource mix remains indicative. In addition, while DCE has worked to develop policies regarding distributed generation within its service area, its efforts to develop local resources and facilitate economic development remain nascent.

DCE expects that it will be able to provide increasingly detailed and precise planned resource portfolios in future years, as it launches service and pursues resource procurement, particularly longer-term resource agreements consistent with SB 350.

DCE was established with founding principles, as described in our joint powers agreement, which guide the development of this IRP and related procurement activities:

- Reducing greenhouse gas emissions related to the use of power throughout DCE jurisdictions and neighboring regions;

- Providing electric power and other forms of energy to customers at a competitive cost;
- Carrying out programs to reduce energy consumption;
- Stimulating and sustaining the local economy by developing local jobs in renewable and conventional energy; and
- Promoting long-term electric rate stability, energy security and reliability for residents through local control of electric generation resources.

These broad policy objectives were used as the basis for the more specific energy procurement strategies included in this IRP.

b. Product Offerings

When DCE launches its electric service in August 2018, it will offer two products. The first option is the "Desert Saver" rate, which will be DCE's default rate and will offer 35% renewable and 50% carbon-free electricity at rates that are 3% below SCE's generation charges. The second option is the "Carbon Free" rate, which will offer 100% carbon-free electricity at rates equal to SCE's current rates using a mix of approximately 35% renewable and 65% other carbon-free resources. Notably, DCE has committed not to contract for nuclear generation for any of its service options.

In addition, DCE plans to offer its customers Net Energy Metering (NEM) service with grid exports compensated at a rate that matches the rate offered by SCE. This will allow customers to pair cleaner grid electricity with renewable energy generated on their premises and potentially support solar-related jobs in the region. The DCE Board plans to explore ways to incentivize rooftop solar and other renewable electric generation systems in the future.

Finally, customers will continue to have access to important electric rate discounts under programs such as Medical Baseline and CARE/FERA, as well as potential new programs specific to DCE customers.

c. Procurement Status

The table below summarizes the status of DCE's short-term procurement activities. DCE also plans to do its first long-term procurement in the next six months, but not before the CPUC reaches a decision in the ongoing Power Charge Indifference Adjustment (PCIA) proceeding. Specifically, DCE requires a resolution on the utility-proposed green allocation mechanism or GAM. Allocation to DCE through the GAM could delay the need for a long-term procurement of renewable and carbon-free power in order to meet its green power targets for its two product offerings. We anticipate that procurement will start in early 2019, starting with procurement for power delivery beginning in 2021.

DCE will also comply with SB 350 long-term procurement requirements. Among other GHG-reduction provisions, SB 350 has some requirements applicable to CCAs including a requirement that CCAs will submit IRPs to the CPUC for certification. SB 350 also requires that at least 65 percent of a CCA's RPS compliance procurement must be under contracts of 10 years or longer beginning in 2021;

DCE must also procure energy storage to meet requirements under AB 2514; although no specific timeline for this procurement has been adopted. The CPUC decision established a target for community choice aggregators and electric service providers to procure energy storage equal to 1 percent of their forecasted 2020 peak load. Installation of energy storage is to be completed by 2024.

Table 1. Procurement schedule as of July 2018.

	Product	
Product Year	**Resource Adequacy**	**Energy/RPS/Carbon-Free**
2018	Complete (through agreement with SCE)	Complete
2019	Ongoing	Fall 2018
2020	Ongoing; Fulfill requirements in 2019	Beginning Fall 2018; Fulfill requirements in 2019
2021	Ongoing; Fulfill requirements in 2019-2020	Beginning Fall 2018; Continue in 2019; Fulfill requirements in 2020
Subsequent years	TBD	TBD

3. Study Design

a. Objectives

DCE's objectives in its IRP portfolio analysis are to provide a conforming portfolio to meet the CPUC's directives in D.18-02-018 and to analyze an alternative, preferred portfolio that reflects the DCE Board's approved procurement goals. The preferred portfolio focuses on DCE's goal to reduce GHG emissions related to electricity use. For each portfolio, we estimate greenhouse gas (GHG) emissions using the CPUC's approved clean net short method. Because so little procurement has been completed, these portfolios remain largely hypothetical and rely primarily on generic resource assumptions. Future IRPs and resource plans will be more detailed and reflect actual resources and contracts.

b. Methodology

i. Modeling Tool(s)

DCE developed a spreadsheet model to create each portfolio and to estimate non-GHG emissions. To estimate GHG emissions for each portfolio, DCE relied on the CPUC's GHG Calculator spreadsheet tool. It did not conduct any production cost modeling or portfolio

optimization studies. The independent spreadsheet model and GHG Calculator results are attached to this IRP.

ii. Modeling Approach

For the conforming portfolio, per the CPUC's directives DCE must demonstrate consistency with the reference system portfolio assumptions with "some updating to reflect the latest IEPR assumptions." [2] Thus, DCE did not rely on the exact portfolio shown in D.18-02-018, but instead used the RESOLVE output from the 2017 IEPR Update model run.[3] DCE simply allocated the capacity by resource type for the CAISO system portfolio[4] to DCE based on DCE's fraction of total energy within the CAISO system ("load ratio share"). The load ratio share was calculated for each year of the forecast period (namely 2018, 2022, 2026, and 2030). Energy production for each resource type in the portfolio was estimated using the actual capacity factors for each resource as output from RESOLVE.

DCE acknowledges there are alternative ways to craft a conforming portfolio. For example, the only nuclear capacity left in CAISO in 2030 is SCE's share of Palo Verde Nuclear Generating Station. Therefore, one could assume that the only party with nuclear capacity in its resource mix in 2030 will be SCE. However, we did not wish to bias any particular resource type for purposes of the conforming portfolio for this IRP. Therefore, all resource types in the CAISO system are represented.

For the alternative, preferred portfolio, DCE adjusted the conforming portfolio to meet its Board's procurement goals. This, essentially, involves scaling down the fossil portion of the reference system portfolio, while scaling up the renewable and carbon-free portions.

iii. Assumptions

Load Forecast

DCE filed an annual load forecast out to 2030 on April 20, 2018, per the Administrative Law Judge's ruling seeking comment on greenhouse gas emissions accounting methods and addressing updated greenhouse gas benchmarks filed April 3, 2018. DCE used this load forecast to craft portfolios in the IRP. This forecast did not include any specific assumptions for energy efficiency, electric vehicle load growth and charging, or behind-the-meter (BTM) generation. Therefore, DCE used the default assumptions embedded in the GHG tool workbook

[2] D.18-02-018, pg. 80.

[3] The key difference between the RESOLVE output summarized in D.18-02-018 and the updated run is that the updated load forecast is higher, thus increasing the amount of renewables added, especially geothermal.

[4] We allocated resource capacity for resources contracted to serve CAISO. Therefore, some resources will not be physically located within the CAISO market footprint.

for both portfolios. These assumptions are summarized in the table below. The forecast includes an assumed 10% opt out rate. Table 2 also shows the load ratio share used to allocate capacity (MW) for the CAISO system to DCE.

Table 2. Load assumptions.

		2018	2022	2026	2030
Assigned Load Forecast for IRP (i.e., Managed Retail Sales Forecast)	*GWh*	489	1,408	1,477	1,531

Default Demand Inputs (based on sales-weighted share of total from IEPR, grossed up for T&D Losses)	***Units***	**2018**	**2022**	**2026**	**2030**
Baseline net energy for load (no BTM PV, EV, electrification, energy efficiency)	*GWh*	560	1,706	1,891	2,058
Electric Vehicle Load - Home Charging Only	*GWh*	4	29	48	64
Electric Vehicle Load - Home + Work Charging	*GWh*	0	5	14	28
Other Electrification	*GWh*	0	2	4	5
Building Electrification	*GWh*	-	-	-	-
Energy Efficiency	*GWh*	(5)	(76)	(153)	(230)
Behind The Meter Photovoltaic (PV)	*GWh*	(31)	(145)	(211)	(274)
Total Managed Net Energy for Load	*GWh*	528	1,519	1,593	1,650
CAISO Managed Net Energy for Load	*GWh*	225,889	224,124	221,928	218,478
Load Ratio Share		0.56%	0.68%	0.72%	0.76%

Resource Adequacy

For 2018, SCE will be responsible for meeting and reporting on the RA compliance to the CPUC and the CAISO for both SCE and DCE. This has been arranged through an agreement between SCE and DCE filed with SCE's Advice Letter 3801-E.

The focus of the limited modeling performed for this IRP was to craft portfolios to meet DCE's energy requirements and calculate portfolio GHG emissions. DCE will also comply with all RA requirements, including any future requirements for multi-year RA obligations. Current projections of system, flex, and local RA requirements are summarized in the table below.

Table 3. DCE Projections of RA requirements (MW).[5]

	2018	2022	2026	2030
South System	SCE to Provide	286	298	310
LA Basin		65	68	71
Big Creek/Ventura		19	20	21
Flex		67	69	72

[5] Numbers reflect summer conditions and will vary by month through the calendar year. Local and flex requirements are not additive to system requirement listed but represent the part of system RA that must also satisfy local and flex needs.

Because the modeling here uses RESOLVE output as a starting point and RESOLVE has ensured adequate resources to meet system and local RA requirements, DCE assumes there will be adequate RA available to meet system needs for each portfolio modeled. DCE has not attempted to construct a portfolio of future RA as procured from any specific resource or resource type.

In addition, DCE has not performed an analysis of RA acquired from resources through the CAM or designated any particular resource type as including CAM resources. DCE will pay for its allocated share of resources subject to the CAM as necessary in the future.

DCE Procurement Goals

DCE intends to provide electric service that is both less costly and cleaner than traditional utility service. Consistent with the policy direction of its board of directors, DCE will not contract for nuclear power as part of its procurement mix. DCE will procure 35% of its energy from resources that qualify as renewable under California's RPS when it begins serving customers and will procure 50% of its energy from carbon-free resources. That is, 15% of total energy procurement will be from non-nuclear, non-RPS eligible carbon-free resources, which is likely to be existing large hydroelectric resources. DCE plans to escalate each of these percentages over time so as to continue providing cleaner energy for its customers than SCE's bundled service. Although the Board may change its carbon-free and renewable energy targets over time in response to changing technology and cost, the table below lays out current expectations for green energy procurement. The targets presented are largely consistent with DCE's Implementation Plan,[6] with the RPS eligible target percentage extrapolated to be 55% by 2030, which is greater than the mandated 50% target.

Table 4. DCE current green energy targets.

	2018	2022	2026	2030
% RPS Eligible	35%	46%	49%	55%
% Added Carbon Free	15%	24%	44%	45%
% System Power	50%	30%	7%	0%

Customer selection of the Carbon Free rate option could require additional purchases of carbon-free energy in the near term beyond that shown in the targets above, but DCE has not modeled any specific scenarios at this time. DCE will provide more specific information about how adoption of Carbon Free energy impacts procurement in future planning studies when more is known about the adoption of this product.

[6] Available on DCE's website at https://desertcommunityenergy.org/wp-content/uploads/2018/05/DCE_Implementation-Plan.pdf. See Table 2 on page 14.

Emissions

DCE estimated carbon emissions using the clean net short method, as embedded in the GHG Calculator for IRP v1.4.5 workbook. The capacity inputs by resource type allocated by load ratio share are not directly entered into this workbook. For purposes of this workbook, only RPS eligible resources that are portfolio content category (PCC 1) are considered GHG-free. As are hydro and nuclear resources that are not RPS-eligible but are owned and under a resource-specific (not system power) contract and deliverable into the CAISO system. The capacity values entered are those that will generate the same GWh as estimated from the load ratio share allocation. The capacity values will differ from those directly allocated if the capacity factors as output from RESOLVE are not the same as those input into the GHG Calculator tool.

Total energy generated by resource type does not perfectly match DCE's load forecast values. DCE assumed the difference would be comprised of unspecified spot imports or exports. Based on the analysis, DCE would be a net importer for the conforming portfolio case. DCE did not enter any resource capacity values for imports into the tool, but instead assumed these resources will largely be fossil resources and large hydro from outside CAISO. GHG reductions from large hydro imports are separately accounted for in the GHG Calculator tool.

DCE's approved 2030 GHG emissions benchmark is 0.268 MMT.

For oxides of nitrogen (NOx) and fine particulate matter (PM2.5) emissions calculations, DCE used emission rate assumptions from the CPUC's proposed reference system plan post-processing spreadsheet. These assumptions are summarized in Table 5.

Table 5. NOx and PM2.5 Emissions Rate Assumptions.

	NOx Emissions Rate (lb/MWh)	PM2.5 Emissions Rate (lb/MMBtu)
Combined Cycle Gas Turbine	0.07	0.0066
Gas Turbine Peaker 1	0.099	0.0066
Gas Turbine Peaker 2	0.279	0.0066
Steam Turbine	0.15	0.0075
Reciprocating Engine	0.5	0.01

4. Study Results

This section describes the results of our analysis for each portfolio we developed.

a. Portfolio Results

DCE developed two portfolios:

- **Conforming Portfolio:** This portfolio is based upon the Reference System Plan.

- **Preferred Portfolio:** This portfolio reflects DCE's procurement goals as approved by its Board of Directors.

The contents of each portfolio are described in more detail below.

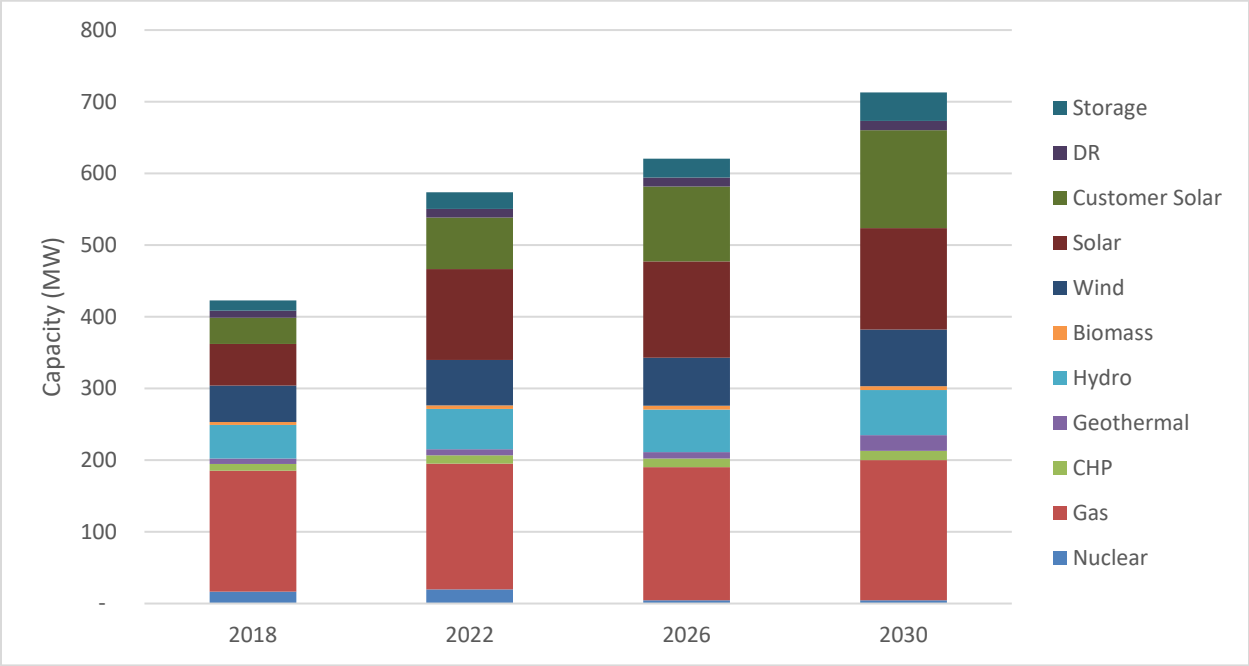
b. Preferred and Conforming Portfolios

Conforming Portfolio

The chart below shows the allocated capacity (MW) of each resource type to DCE, including BTM solar generation and demand response. DCE did not estimate equivalent capacity of energy efficiency investment, but the assumed energy reductions embedded in the load forecast are shown in Table 2. Because resources in the conforming portfolio reflect the Reference System Plan, they include resources that DCE would not necessarily have access to or sign contract for delivery. For example, the nuclear resources shown in the figure reflect DCE's load ratio share of Diablo Canyon in 2018 and 2022, and of SCE's share of Palo Verde in all four years shown. As indicated earlier, the analysis completed for this plan did not exclude any resource type within CAISO's system for allocation to DCE when creating its conforming portfolio, even though in practice they would not contract for power from nuclear resources. It also includes additional storage resources to reflect the AB 2514 procurement mandate of 1% of 2020 peak load. Since 2020 peak demand is forecasted to be 345 MW, the conforming portfolio includes 3.45 MW of total new lithium ion battery storage[7] for years 2022 and 2026. In 2030, the conforming portfolio reflects DCE's load ratio share of new lithium ion battery storage equal to 15.9 MW.

[7] New lithium ion battery storage is in addition to DCE's load ratio share of the 1325 MW storage mandate for the investor-owned utilities, which is also included in the conforming portfolio.

Figure 1. Conforming Portfolio Capacity by Resource Type.[8]



The chart below shows the conforming portfolio broken down by resource type on an energy (GWh) basis, including net imports. We assume service begins August 1, 2018, meaning 2018 is a partial year. To better show the change in portfolio composition for that year, we also present a chart on a percentage basis (see Figure 3).

[8] Nuclear resources reflect DCE's load ratio share of Diablo Canyon in 2018 and 2022, and of SCE's share of Palo Verde in all four years shown. As indicated earlier, DCE did not exclude any resource type within CAISO's system for allocation to DCE when creating its conforming portfolio.

Figure 2. Conforming Portfolio Energy by Resource Type.

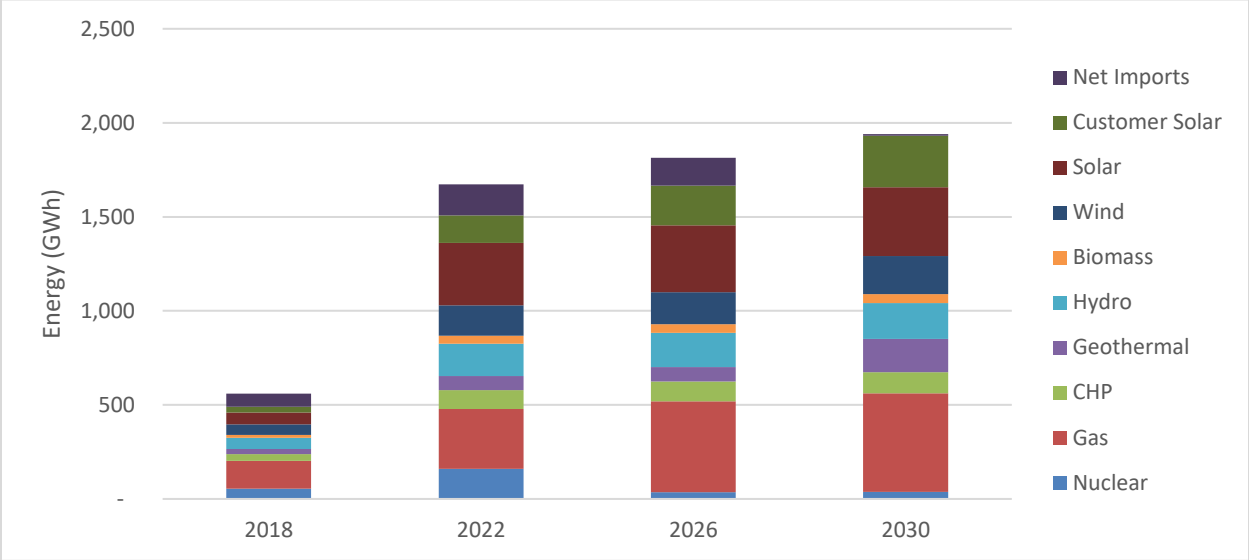
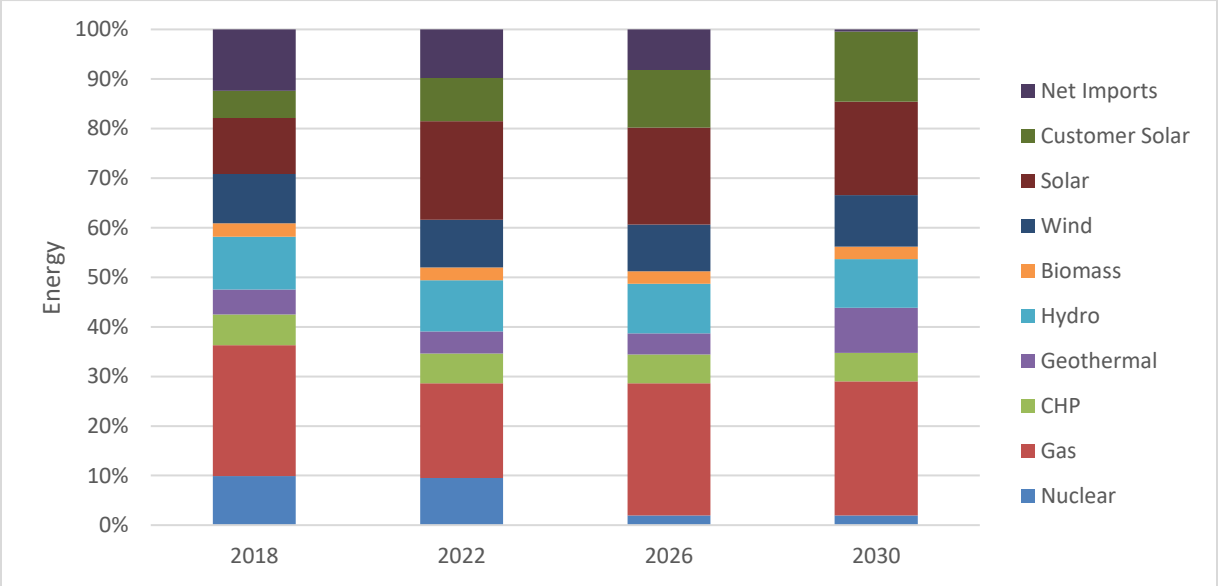


Figure 3. Conforming Portfolio Energy by Resource Type, %.



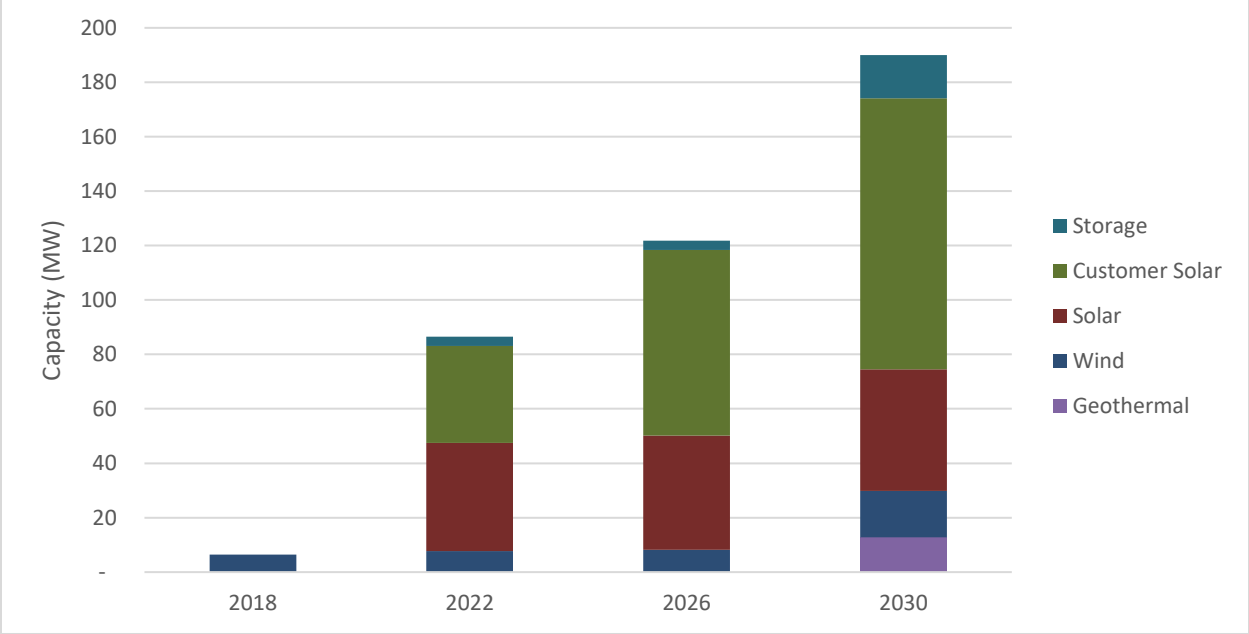
The conforming portfolio reflects the composition output by RESOLVE for the CAISO system. It predicts growth in storage resources, geothermal, and especially solar generation.

The chart below shows the capacity that is new[9] based on DCE's load ratio share of new capacity per RESOLVE's classification. This also includes customer solar generation capacity incremental to 2018 levels. As indicated earlier, customer solar generation reflects default assumptions in the GHG calculator tool. Currently, there are approximately 9,400 Net Energy Metering customers within DCE

[9] RESOLVE classifies resources as baseline (existing or planned) or new.

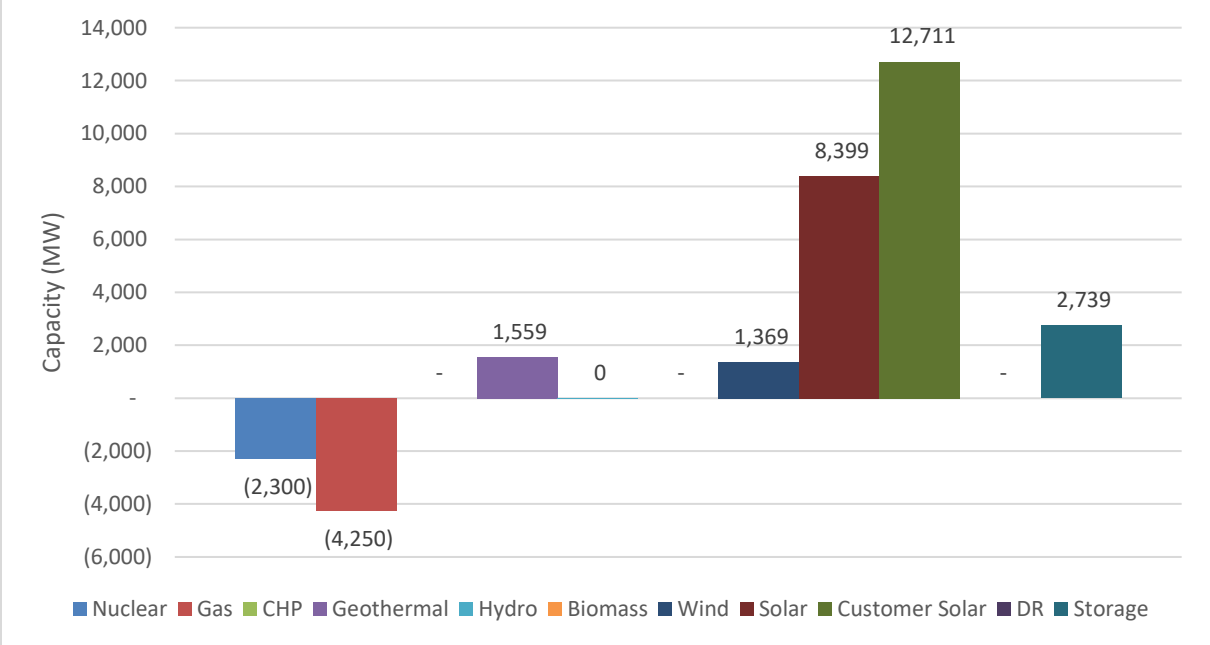
territory. NEM customer exports to the grid were 3.2 GWh in 2017. DCE does not have an estimate of total BTM generation capacity or energy production in DCE's service territory. Future IRPs will reflect actual BTM capacity to the extent data becomes available.

Figure 4. Conforming Portfolio New Capacity by Resource Type.



The figure below shows the net change in capacity by resource type between 2030 and 2018 for CAISO as output by RESOLVE.

Figure 5. CAISO Change in Capacity From 2018-2030 as Output from RESOLVE.



On net, there is a significant reduction in gas and nuclear generation and a significant rise in renewable generation, especially new solar resources. For the remaining gas and nuclear generation, DCE assumes these resources remain in the portfolio because they are the optimal resources to meet CAISO's needs under the constraints input into RESOLVE. There is also significant addition of storage; all new storage modeled is lithium (Li) ion battery technology.

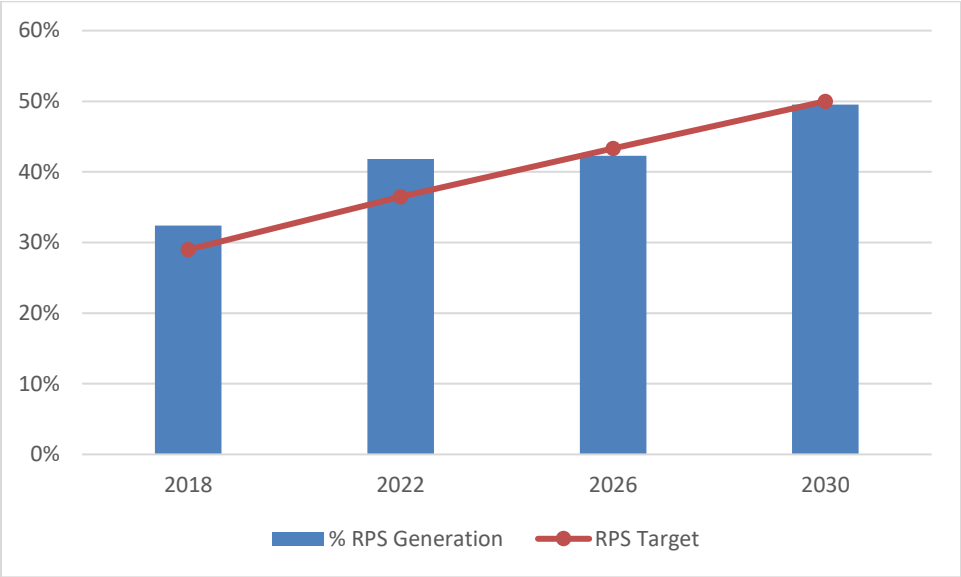
The table below is an excerpt from the GHG Calculator tool dashboard, showing that emissions attributed to DCE's conforming portfolio under the clean net short method. All RPS-eligible resource types and BTM solar were input into the "Capacity Inputs" section of the tool. No reduction was made to reflect any assumption of PCC1 resources versus other types. The 3.45 MW of new lithium ion battery storage needed to meet state mandates was also included, as was DCE's load ratio share of all new lithium ion battery storage in 2030 (15.9 MW). All other resource types are assumed to be part of system power. The result is that the conforming portfolio will produce 0.294 MMT of GHG emissions in 2030, which is above the 2030 benchmark of 0.268 MMT. Why it is above the benchmark is not entirely clear, but the preferred portfolio described in the next section is designed to provide additional carbon-free power, which will address this.

Table 6. Conforming Portfolio GHG Emissions Results.

Emissions	***Unit***	**2018**	**2022**	**2026**	**2030**
Clean Net Short	*MMtCO2/yr.*	0.135	0.334	0.351	0.315
Owned or contracted non-dispatchable GHG-emitting resources	*MMtCO2/yr.*	-	-	-	-
Emissions offset for NW hydroelectric imports	*MMtCO2/yr.*	(0.007)	(0.019)	(0.020)	(0.021)
Total	***MMtCO2/yr.***	**0.128**	**0.315**	**0.331**	**0.294**

Although DCE has not done a detailed analysis of RPS compliance—which would involve more consideration of eligible loads, REC banking, eligible resources not modeled in RESOLVE, and REC procurement standards—it has performed a simple calculation of the percent of supply-side resources in the portfolio that are RPS-compliant according to RESOLVE. This provides an indicator of whether the RPS goals will be met using this portfolio. As shown in Figure 6, the percent of RPS-compliant generation exceeds the target in in 2018 and 2022 and is within one percentage point of the target in 2026 and 2030. DCE remains committed to meeting or exceeding all RPS goals set by the state.

Figure 6. Percent of conforming portfolio supply-side generation that is RPS eligible compared to RPS eligible generation target.



The portfolio results provided here are targeted at providing enough energy to meet DCE's load. As noted above, we expect to procure RA separately. Given the resource mix is also adequate for meeting RA requirements for CAISO according to RESOLVE, we anticipate it will provide adequate RA for all LSEs.

Preferred Portfolio

DCE has completed its procurement for 2018. The table below summarizes its existing contracts.

Table 7. Summary of confirmed contracts for 2018 delivery.

Product	Resource Type	Number of Contracts	Total Quantity (MWh)
PCC1 RPS Eligible Generation	Likely Existing Geothermal	1	90,000
PCC1 RPS Eligible Generation	Existing Solar in Northern California	1	25,000
PCC2 RPS Eligible Generation	Existing NW Wind	1	70,000
Carbon-Free Energy	Existing NW Hydroelectric	1	92,000
System Peak Energy Hedges	Unknown system power	7	336,400
System Off-Peak Energy Hedges	Unknown system power	5	203,725

The resources supplying the largest PCC1 contract will be managed by the seller. Based on discussions with the seller, it is likely to be met with geothermal resources, backed by wind and solar if necessary. For purposes of portfolio modeling, this contract was assumed to be geothermal.

The other PCC1 contract will be supplied by two solar facilities in Northern California. The PCC2 contract will be supplied by two wind farms, one in Oregon and one in Washington.[10]

Carbon-free power will be delivered from several existing large hydro facilities in the Pacific Northwest.

Since no procurement has been completed for other years, DCE made assumptions regarding resource types for its preferred portfolio, as follows:

- All added procurement of carbon-free energy comes from existing large hydro resources
- The amount of existing wind, geothermal, and solar energy in the portfolio was kept at 2018 levels.[11] Solar was modeled as CAISO solar and wind was modeled as NW wind in 2018. Solar and wind were modeled as CAISO solar and wind in future years.
- New solar generation was added in an amount equal to the new solar generation in the conforming portfolio. New solar was modeled as the Riverside East Palm Springs type generic resource from RESOLVE.
- All remaining RPS generation needed to meet annual targets was assumed to be met with new geothermal resources in the Greater Imperial Valley area.
- All system power reflects a conventional (that is, non RPS-eligible) generation mix in the CAISO system as output from RESOLVE. This is scaled to meet non-RPS eligible and non-carbon free portions of the portfolio.
- Since we do not have an alternative load forecast, the level of energy efficiency and customer solar generation is the same as the conforming portfolio
- The demand response and total storage capacity (both pumped hydro and lithium ion battery) included is the same as the conforming portfolio
- Reliance on PCC2 RECs decreases linearly from 2018 levels to zero by 2030; thus by 2030 all RPS-eligible resources can be counted as GHG-free in the GHG calculator tool

This portfolio is preferred over the conforming portfolio because it reduces GHG emissions and increases renewable generation in accord with local values in DCE's service territory and as approved by DCE's Board. Future IRPs will include more refined assumptions as actual contracts are signed and DCE sets more specific customer generation targets.

Figure 7 shows the capacity (MW) of each resource type in DCE's preferred portfolio. This is analogous to Figure 1 for the conforming portfolio. Again, because of the reliance on CAISO system generation for energy beyond RPS and GHG-free, the figure shows small amounts of resources that

[10] Resource names for these resources and the hydroelectric facilities supplying carbon-free power can be found in the baseline resource template attached to the IRP.

[11] The 2018 contracted energy amounts were annualized for each full year modeled.

DCE is not specifically contracting with but are sold into the wholesale market from which DCE would purchase its system power (e.g., CHP and nuclear).

Figure 7. Preferred Portfolio Capacity by Resource Type.[12]

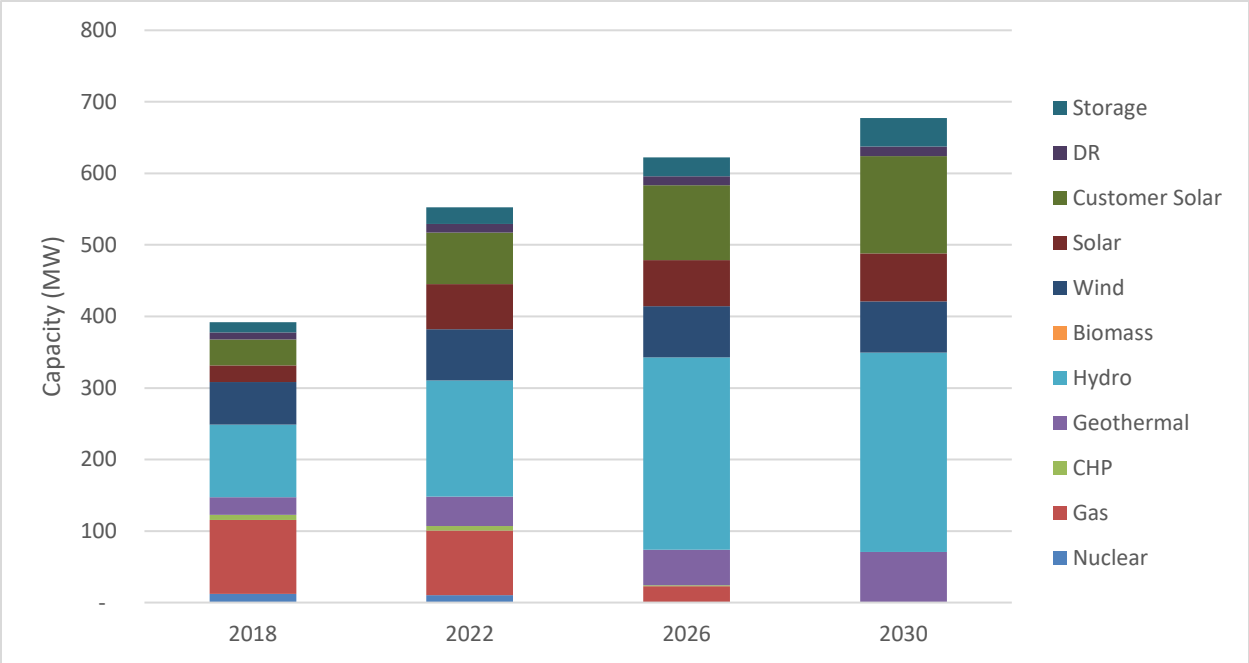


Figure 8 shows the preferred portfolio broken down by resource type on an energy (GWh) basis, including net imports. Figure 9 shows the energy by percentage of resource type to better show how the mix changes from 2018, which is a partial year.

[12] Nuclear resource shown is part of procurement of system power, which includes nuclear, gas, and hydro generation. Under the Board's approved procurement practices, DCE will not sign contracts specifically for nuclear power.

Figure 8. Preferred Portfolio Energy by Resource Type.

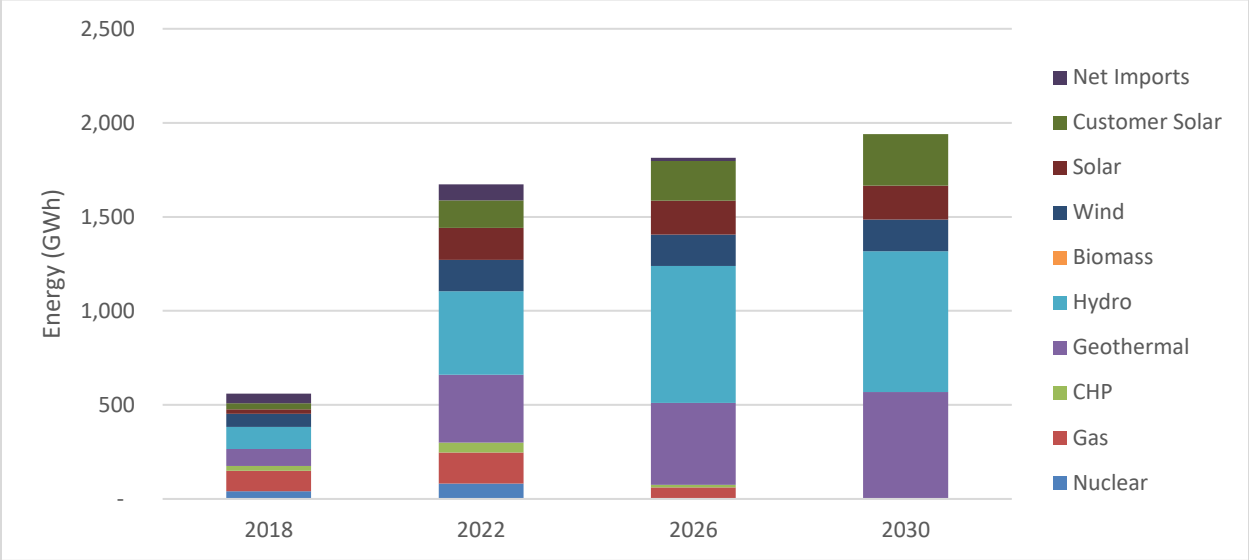
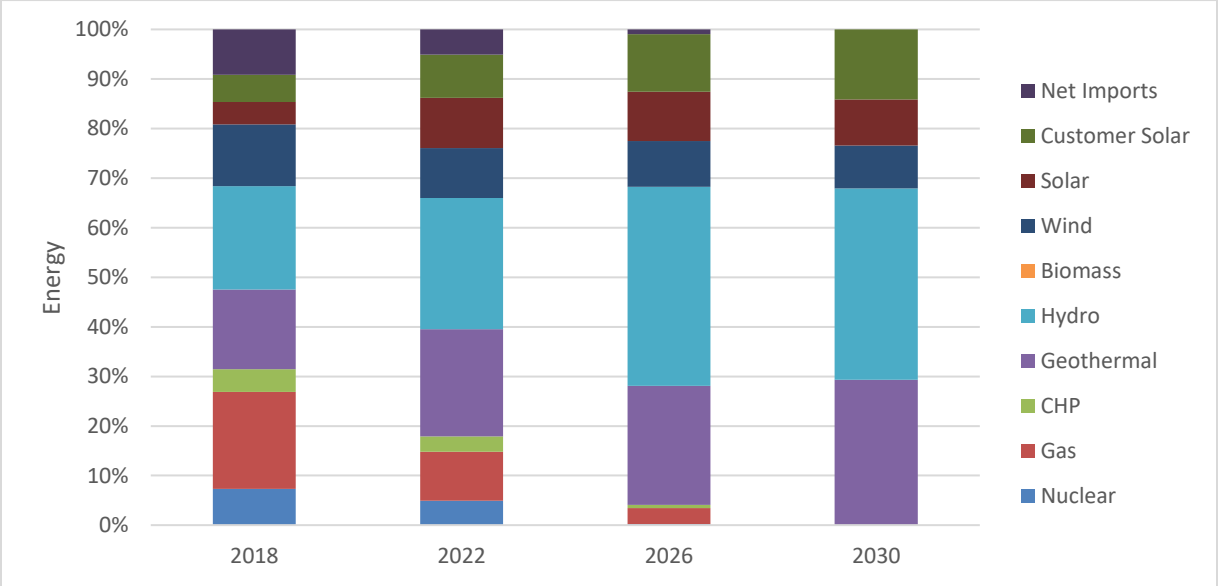


Figure 9. Preferred Portfolio Energy by Resource Type, %.



Comparing Figures 1-3 with Figures 7-9 shows that the preferred portfolio in 2030 differs from the conforming portfolio in the following ways:

- Reduces energy produced from gas and nuclear to zero
- Expands hydro generation from 10% to almost 40% of DCE's energy portfolio
- Increases capacity additions of geothermal generation
- Eliminates reliance on biomass and small hydro to meet RPS requirements

Figure 10 shows the capacity that is planned or new based on the preferred portfolio. As discussed above, additional reliance on RPS eligible resources was assumed to be procured from new

geothermal resources. Thus by 2030, the preferred portfolio contains 33MW of additional new geothermal capacity as compared to the conforming portfolio.

Figure 10. Preferred Portfolio New Capacity by Resource Type.

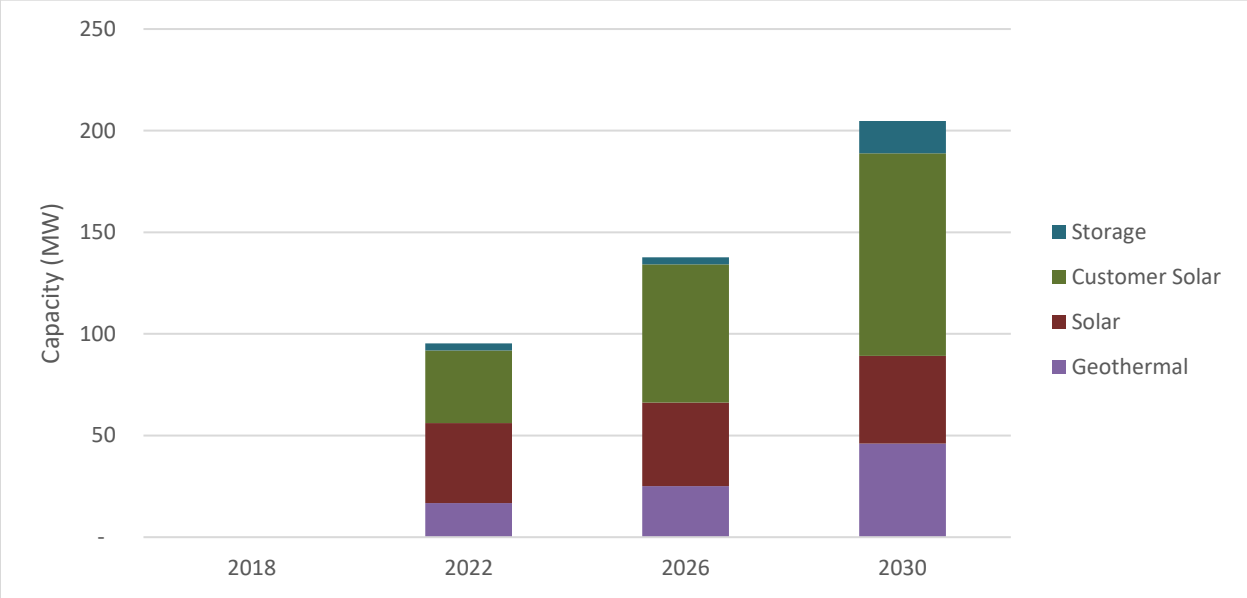


Figure 10 also shows the same addition of solar and storage resources as the conforming portfolio.

Table 8 is an excerpt from the GHG Calculator tool dashboard, showing that emissions attributed to DCE under the clean net short method. Only the PCC1 RPS-eligible resources, purchases of large hydro tied to specific resources to meet carbon-free procurement goals, and BTM solar were input into the "Capacity Inputs" section of the tool. As indicated earlier, all PCC2 purchases are not considered GHG-free under the approved methodology, and all other resource types are assumed to be part of system power. The result is that the preferred portfolio will produce 0.011 MMT in 2030, a reduction of 96% from the conforming portfolio, and well below the 2030 benchmark of 0.268 MMT. The result is not zero, however. This is a consequence of the clean net short methodology which may attribute a greater amount of GHG emissions during hours when load exceeds the amount of GHG-free generation than GHG emissions reductions during times when GHG-free generation exceeds load

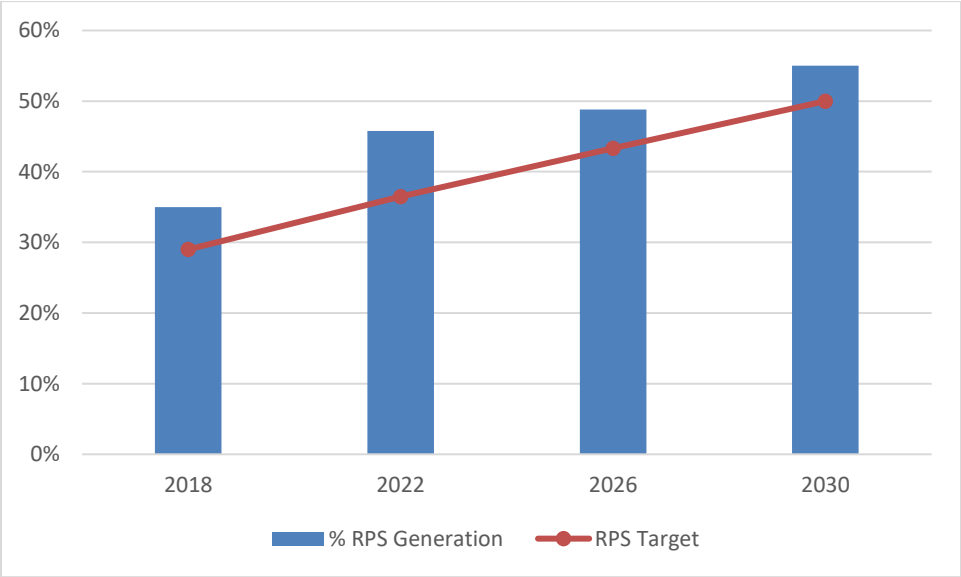
Table 8. Preferred Portfolio GHG Emissions Results.

Emissions	***Unit***	**2018**	**2022**	**2026**	**2030**
Clean Net Short	*MMtCO2/yr.*	0.126	0.226	0.087	0.032
Owned or contracted non-dispatchable GHG-emitting resources	*MMtCO2/yr.*	-	-	-	-
Emissions offset for NW hydroelectric imports	*MMtCO2/yr.*	(0.007)	(0.019)	(0.020)	(0.021)
Total	***MMtCO2/yr.***	**0.119**	**0.207**	**0.066**	**0.011**

Since the preferred portfolio includes a large amount of existing large hydro generation, at least some of which will be sourced from the Pacific Northwest, the emissions offset for northwest hydroelectric imports shown in Table 8 may include some double counting. However, even setting this to zero, the preferred portfolio will significantly reduce greenhouse gas emissions compared to the conforming portfolio and stay well below the benchmark.

Figure 11—analogous to Figure 6 above—shows that the amount of RPS-eligible generation in the preferred portfolio as a fraction of total generation exceeds the RPS target in all years modeled.

Figure 11. Percent of preferred portfolio supply-side generation that is RPS eligible compared to RPS eligible generation target.



As with the conforming portfolio, the preferred portfolio is targeted at providing enough energy to meet DCE's load, and DCE expects to procure RA separately. An alternative, preferred portfolio of RA resources may not be required or may be different than shown here for energy needs in future years. This will be reported on in future IRPs.

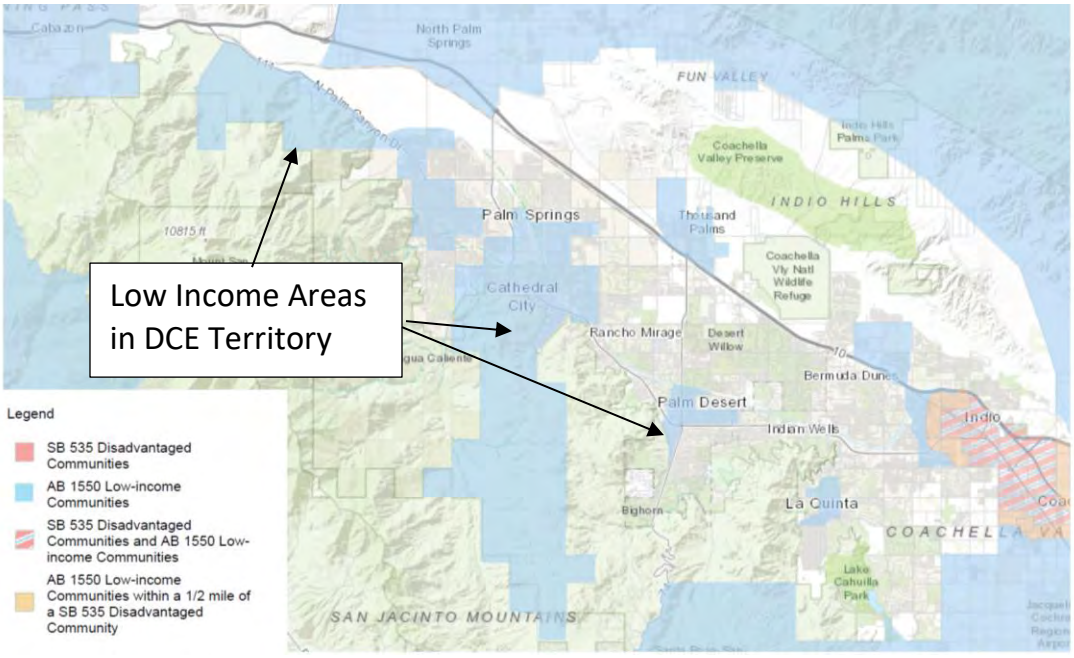
i. Local Air Pollutant Minimization

DCE's service territory lies within Riverside County's Coachella Valley. The valley has long been and continues to be a popular winter tourist destination and is home to a diverse population year-round. It is also known as a retirement haven and has a large population of people over 65.

We identified 81 census tracts that at least partially overlap with DCE's three-city service territory. Based on the CPUC's definition in D.18-02-018, none of the identified census tracts qualify as disadvantaged communities. However, there are 28 census tracts that at least partially overlap with areas considered low income under AB 1550. The map below shows these areas graphically. The greenhouse gas emissions reduction and air quality improvements associated

with the preferred portfolio are expected to benefit the low income and disadvantaged communities in the region, even though they may be outside the DCE territory.

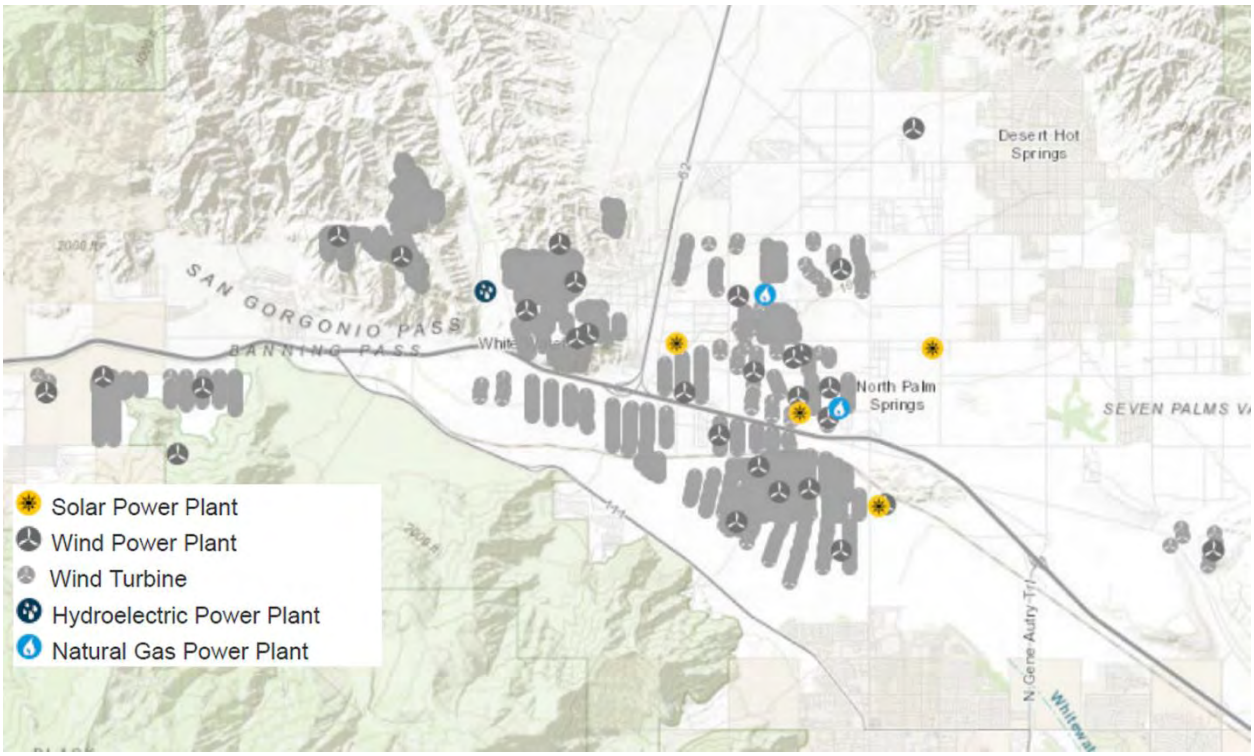
Figure 12. Map of low Income communities.



The DCE service territory also includes Tribal lands of the Agua Caliente Band of Cahuilla Indians. The Tribe itself is a direct access customer for their facilities (offices, casino etc.), and will not be enrolled automatically in DCE. Due to the checkerboard pattern of the Reservation lands, many DCE customers in Palm Springs and Cathedral City reside on Tribal leased land.

The Coachella Valley desert climate creates excellent conditions for renewable energy development. There is a significant amount of generation already in the Coachella Valley, especially near North Palm Springs. This includes several wind farms, multiple solar farms and natural gas-fired plants, as well as one small hydro plant. The map below from the Energy Information Administration (EIA) shows the location of these facilities.

Figure 13. Map of local generation resources.



The largest natural gas-fired station in the local area is the Sentinel Energy Center, an 800 MW facility in North Palm Springs.

Conforming Portfolio

Since DCE did not perform production cost modeling that could provide emissions for each generating resource, it only performed a limited analysis of NOx and PM2.5 emissions for the conforming portfolio. DCE used estimates of gas generation from Figure 2 and emissions rates in Table 4 to estimate total emissions. The table below reports our findings.

Table 9. Estimates of NOx and PM2.5 from gas generation in conforming portfolio.

	NOx				PM2.5			
	2018	2022	2026	2030	2018	2022	2026	2030
Total Emissions (tons)	5.2	11.5	17.1	18.4	3.5	7.5	11.2	12.0
Total Generation* (GWh)	459	1,362	1,455	1,657	459	1,362	1,455	1,657
Effective Emissions Rate (t/GWh)	0.011	0.008	0.012	0.011	0.008	0.006	0.008	0.007

*Excludes net imports and customer solar

The table shows a decrease in emissions intensity from 2018 to 2022 and then an increase in 2026, largely due to additional gas generation subsequent to the retirement of Diablo Canyon nuclear power plant in 2025. Emissions intensity then declines again in 2030.

Preferred Portfolio

DCE performed a similar analysis for the preferred portfolio. As the table below shows, the reduced reliance on gas generation in the preferred portfolio decreases the amount of NOx and PM2.5 emissions.

Table 10. Estimates of NOx and PM2.5 from gas generation in preferred portfolio.

	NOx				PM2.5			
	2018	2022	2026	2030	2018	2022	2026	2030
Total Emissions (tons)	3.9	6.0	2.0	0.0	2.6	3.9	1.3	0.0
Total Generation* (GWh)	477	1,442	1,586	1,665	477	1,442	1,586	1,665
Effective Emissions Rate (t/GWh)	0.008	0.004	0.001	0.000	0.005	0.003	0.001	0.000

*Excludes net imports and customer solar

Either portfolio may include contracts with local existing resources. DCE plans to pursue development of new renewable resources in the Coachella Valley area. Such development is expected to reduce emissions and provide local economic development. DCE does not plan to contract with any new local fossil fuel resources. Thus, when customers elect to take service from DCE, it should not increase local emissions, and it may decrease local emissions, depending on how new renewable development impacts the dispatch of local natural gas-fired generation.

ii. Cost and Rate Analysis

DCE's rate setting has the following objectives:

- Rate competitiveness
- Rate stability
- Equity among customers
- Customer understanding
- Revenue sufficiency

Each objective is described in more detail in DCE's Implementation Plan.[13] DCE intends to modify its procurement goals if necessary to achieve these objectives. DCE's ability to maintain rate competitiveness is also dependent on its customers' liability from SCE's PCIA charge. As of the time of this writing, DCE still anticipates the CPUC decision in the current PCIA proceeding, which is expected in July 2018.

As described earlier, at the start of service, DCE intends to adopt rate designs and rates based on SCE's current rates. The "Desert Saver" product will be priced 3% below SCE's rates and the "Carbon Free" product will be priced the same as SCE's rates. Over time, DCE will consider adopting unique rate designs. Rate setting will typically be done once per year in an

[13] See descriptions beginning on page 27.

open and transparent process culminating in a Board decision each January. The Board retains the right to change rates at any time if circumstances warrant.

DCE's Board has approved the following rates for domestic (residential) customers in 2018: $0.06376/kWh for Desert Saver customers and $0.06634/kWh for customers electing Carbon Free power. All other rates, including time-of-use rates and commercial rates are available on DCE's website.[14]

At the start of providing service, DCE is offering a NEM program that will match SCE's rates for surplus production exported to the grid. Existing SCE NEM customers will be automatically enrolled. DCE will also continue SCE's FERA, CARE, and Medical Baseline programs for low income customers and those with medical limitations.

As described in more detail in the Implementation Plan,[15] DCE expects positive cash flows in the near term and will use these revenues to build a rate-stabilization or reserve fund, as well as build DCE's credit profile.

Conforming Portfolio vs. Preferred Portfolio

With current prices of renewable and carbon-free energy, DCE fully expects it can meet its current procurement objectives as embedded in the preferred portfolio as well as its rate objectives. Should market conditions change, the conforming portfolio serves as a guidepost for an alternative portfolio that may allow DCE to meet is rate objectives, while achieving California's aggressive green power mandates.

c. Deviations from Current Resource Plans

DCE has not filed any other resource plans other than that described in its Implementation Plan. DCE's preferred portfolio is consistent with the filed Implementation Plan

d. Local Needs Analysis

DCE is in the LA Basin local capacity area at the eastern edge. Expected local RA requirements are summarized in Table 3. As stated earlier, because our modeling uses RESOLVE output as a starting point and RESOLVE has ensured adequate resources to meet system and local RA requirements, we assume there will be adequate local RA available to meet DCE's needs for each portfolio modeled. We have not attempted to construct a portfolio of future RA as procured from any specific resource or resource type. To the extent additional reliance on intermittent renewable generation in the preferred portfolio requires increased grid integration costs, DCE will respond, either by shifting its portfolio to non-intermittent renewable resources or procuring storage capacity or some other method in accord with local goals and values. DCE also anticipates development of new renewable resources will be at

[14] See https://desertcommunityenergy.org/billing-rates/.

[15] See Chapter 7: Financial Analysis.

least in part within or adjacent to its service territory, which should provide additional supply into the constrained LA Basin area.

5. Action Plan

This section presents DCE's planed activities for the next 1-3 years. As DCE has only just begun starting service, we expect a significant near-term ramp up in planning activity and program offerings.

a. Proposed Activities

Preferred Portfolio

DCE's procurement is ongoing. Current plans are summarized in Table 1 in the Introduction of this IRP. DCE still awaits the CPUC decision on the PCIA. After this, DCE will plan its first long-term solicitation for local, renewable energy. DCE intends this procurement will place a priority on benefitting disadvantaged communities but has not finalized any planned outreach or procurement scoring bonuses. In addition, DCE will also comply with SB350 long-term procurement requirements. We anticipate that procurement will begin in early 2019, starting with procurement for power delivery beginning in 2021. DCE must also procure energy storage to meet requirements under AB 2514, but no specific timeline for this procurement has yet been adopted.

DCE's communities have been and will continue to be active participants in local environmental planning, including electric service improvements. Notably, during the past several years, the municipalities within DCE's service area have conducted detailed greenhouse gas inventory analyses and adopted municipal energy action plans designed to reduce energy usage, promote energy efficiency, and support the deployment of electric vehicles through 2020. All three cities have adopted Climate Action Plans, with a goal to reduce greenhouse gas emissions to 1990 levels. In addition, Cathedral City, Palm Desert, and Palm Springs are members of the Desert Cities Energy Partnership, which is a local government partnership comprised of Blythe, Cathedral City, Desert Hot Springs, Indian Wells, Palm Springs, Rancho Mirage, Agua Caliente Band of Cahuilla Indians, La Quinta, Coachella, Indio, Southern California Gas Company (SoCalGas), Imperial Irrigation District (IID), and Southern California Edison (SCE).

The Desert Cities Energy Partnership is designed to assist local governments to effectively lead their communities to increase energy efficiency, reduce greenhouse gas emissions, increase renewable energy usage, protect air quality and ensure that their communities are more livable and sustainable. This Partnership focuses on installing measurable and effective energy efficiency and conservation devices for the benefit of the cities, their constituencies, the State of California, and California IOU ratepayers. Partnership activities focus on implementing energy efficiency measures in municipal facilities but also promote energy efficiency community-wide. The partnership establishes energy savings goals through city-identified projects, funded by partnership incentives and technical assistance. The partnership supports city and community energy efficiency efforts through marketing and outreach funds.

A Plug-in Electric Vehicle Readiness Plan was adopted by Coachella Valley Association of Governments in 2014; DCE member agencies were participants in the PEV plan. These activities leave DCE well-positioned to achieve continued energy efficiency improvements and gains in electric vehicle use in the future consistent with the default demand assumptions in Table 2.

Expected Board agenda items in the near term, include the following:

- Consideration of alternative rate designs and NEM enhancements to encourage further distributed generation. Feed-in tariffs for local renewable generation will also be considered.
- Developing new energy efficiency programs that enhance, but do not duplicate, existing programs
- Adopting procurement guidelines for improving service to and providing economic development opportunities for local disadvantaged communities
- Long-term procurement of new renewable and storage resources

Longer term, the Board also intends to consider new programs for demand response, electric vehicles, building electrification, and energy storage.

Conforming Portfolio

DCE expects similar programs and actions under either portfolio. The only significant difference would be the lower amount of renewable and carbon-free power procurement necessary with the conforming portfolio.

b. Barrier Analysis

Preferred & Conforming Portfolio

Since so little procurement has been completed, DCE is unable to provide a specific analysis of risks to its preferred portfolio. DCE views the increased reliance on renewable power and large hydro should reduce risk from resource retirements, as compared to the conforming portfolio, as fossil and nuclear assets are at highest risk. To reduce risk, DCE intends to invest in a diverse portfolio of clean generation, including wind, hydro, distributed solar, utility solar, and geothermal. One potential risk to a portfolio heavy in intermittent resources is rising grid integration costs, such as through the need for battery or other grid storage. DCE will monitor developments in storage technology and procure necessary resources to ensure integration of renewable and carbon-free power.

c. Proposed CPUC Direction

DCE is not seeking any specific CPUC direction at this time.

6. Data

DCE has completed the required data templates. Due to lack of any completed procurement for serving load beyond 2018, most of the entries are for generic resources and contracts. The data provided are consistent with the portfolio results described in Section 4.

a. Baseline Resource Data Template

The completed Baseline Resource Data templates are attached to this IRP as Data_DCE_BaseRsrc_Conforming_20180801 and Data_DCE_BaseRsrc_Preferred_20180801. The preferred portfolio template includes information on signed contracts for 2018. All additional lines are best estimates. (Note: these templates are not included here but will be attached to the CPUC submittal)

b. New Resource Data Template

The completed New Resource Data templates are attached to this IRP as Data_DCE_NewRsrc_Conforming_20180801 and Data_DCE_NewRsrc_Preferred_20180801. All entries are best estimates and reflect generic new resources. (Note: these templates are not included here but will be attached to the CPUC submittal)

c. Other Data Reporting Guidelines

We are providing copies of all Excel models developed for this IRP as well as the GHG Calculator tool with inputs for both portfolios. (Note: these models ae not included here but will be attached to the CPUC submittal)

7. Lessons Learned

Preparing this IRP report for submittal on the same day as DCE service will begin has been challenging. However, DCE anticipates that under the requirements that will synch timelines for CCA start up and resource adequacy procurement,[16] future CCAs will not face the same challenges as DCE has. Nonetheless, we make the following recommendations for consideration for future IRPs:

- Approve a reference system plan using the load forecast that LSEs will use in their IRPs.
- Limit data template requirements for LSEs electing to rely on RESOLVE modeling instead of doing independent system modeling, as this took significant time to do. For instance, the baseline template could be limited to actual contracts and the new resource template could be limited to additional new resources not selected in RESOLVE for any Alternative Portfolios.

[16] As required under Resolution E-4907.

ITEM 6C

DESERT COMMUNITY ENERGY

Board Meeting

July 16, 2018

Staff Report

Subject: Net Energy Metering program for Desert Community Energy

Contact: Benjamin Druyon, Management Analyst (bdruyon@cvag.org)

Recommendation: Information only.

Background: At the June 18 DCE Board meeting, the Board approved a Net Energy Metering (NEM) program that is equal to Southern California Edison's NEM program for existing and future solar customers. The Board also discussed the option to review a more robust program in the future, once the program has launched and financial uncertainties are more clear. The Board asked that staff bring additional information back to the next DCE Board meeting, clarifying details of the NEM program including the best month to enroll NEM customers ensuring the least amount of impact to them. Staff has worked with TEA, Don Dame and Shawn Marshall to evaluate the benefits and financial impacts of when to implement the NEM program. An analysis was conducted of the energy use for a 12-month period of DCE NEM customers. It was determined that NEM customers consume more electricity during the hot summer months, using up saved credits, and produce more electricity during the cooler winter months, building credits up once again. Based on this analysis, January was selected as the best month to enroll DCE NEM customers, allowing those customers the chance to use up their credits with SCE before the true-up and transitioning over to DCE, rather than lose them.

Net metering, or **net energy metering** (NEM), is a billing system that credits small customers at the full retail electric price for any excess electricity they generate and sell to their local electric company via the grid from on-site small sources such as residential rooftop solar arrays.

Under NEM, the customer's electric meter keeps track of how much electricity is consumed by the customer, and how much excess electricity is generated by the system and sent back into the electric utility grid. Over a 12-month period, the customer has to pay only for the net amount of electricity used from the utility over-and-above the amount of electricity generated by their solar system (in addition to monthly customer transmission, distribution, and meter service charges they incur).

SCE tracks the difference between the amount of electricity a customer's solar panels produce and the amount of electricity that the customer uses during each billing cycle. When panels produce more electricity than what is used, the customer will receive a credit on their bill. And if the customer earn credits of $100 or more, they'll have an option to "cash out" each January.

Any DCE customer who meets SCE's NEM program requirements is eligible for DCE's NEM program. Generally, this includes customers with renewable electric generation systems (such as solar, wind, biogas, and fuel cell installations) that are less than 1,000 kW. The average residential installation is 5 kW, and the average commercial installation is 100-200 kW.

The following are provisions of the DCE NEM program:

- Current NEM customers will automatically be enrolled in the DCE Net Energy Metering program.
- SCE will true-up customers when they are enrolled [in January] regardless of what month they are in their current relevant period.
- The effective date NEM customers begin service with DCE is also the effective date of the new relevant period for both SCE and DCE.
- The relevant period for the DCE side of the bill (generation) will be reset to end on the meter read date in January of each year.
- DCE electric generation charges will be escrowed and tracked throughout the relevant period, which means customers won't pay a generation charge until the end of the 12-month relevant period. This allows customers a full 12 months to net out any generation charges. Customer bills will still report customers credits and debits and provide a running total for easy tracking.
- At the end of the relevant period NEM accounts will be trued-up.
- Energy generation credits accrued during the relevant period will be used to offset energy generation charges.
- Energy charges not offset by energy credits at the time of true-up will be billed to the customer.
- Any energy credits that exceed energy charges are set to zero for the start of the new relevant period.
- The amount of excess generation kWh will be paid out at DCE's Net Surplus Compensation at $0.03 per kWh, aligned with the current SCE rate.
- This compensation is for generation side of bill only; delivery side will continue to fall under SCE's applicable program.
- New NEM customers will continue to apply through SCE to establish their NEM service before transitioning over to DCE.
- There is no impact to customers NEM 1.0 grandfathering status by enrolling in DCE NEM service.
- For more information about SCE's NEM 1.0 and 2.0 rates, visit the link below:

Southern California Edison (SCE)

In preparation of NEM enrollment, staff has started reaching out to the most active solar companies in the Coachella Valley to inform them of DCE and the NEM program as well as to get their valuable feedback. A letter will also be going out to NEM customers this month to let them know about DCE's NEM program in addition to the required 2 pre-enrollment notices and 2 post-enrollment notices.

This information will be included on our website to provide details about DCE's NEM program and how it will work. The website will also mention information regarding what affect DCE will have on Power Purchase Agreements (PPAs) and solar leases, if any.

Fiscal Analysis: None.

ITEM 7.1

Desert Community Energy
Attendance Roster
2018

Jurisdictions											
Voting Members	**Jan**	**Feb**	**Mar**	**April**	**May**	**June**	**July**	**Sept**	**Oct**	**Nov**	**Dec**
Cathedral City	X	X	X	X	X	X					
Palm Desert	X	X	X	X	X	X					
Palm Springs	X	X	X	X	X	X					

Ex Officio Member											
Desert Hot Springs											

(X)	Voting member present
	Ex Officio member - vacant
(A)	Absent

Updated 7/10/18