Technical Study Scope of Work

Overview

Monterey Bay Community Power (MBCP) is studying Community Choice Aggregation (CCA) with the goal to determine the feasibility of making the development, procurement and delivery of energy, and energy conservation and energy efficiency programs, a locally controlled, generated, and managed program throughout the tri-county Monterey Bay region. The Project Development Advisory Committee (PDAC) has appointed the Technical Working Group (TWG) to prepare the study's scope of work.

The study will generate and validate tools needed to prepare a CCA business plan to quantify resource needs; prioritize resource preferences and other relevant energy procurement policies; and guide the electricity procurement process of the CCA. Our vision is to build an energy delivery agency which reduces greenhouse gas emissions throughout the region by providing an energy portfolio with lower overall carbon content than PG&E; which reflects the transparency, accountability, community character, and responsiveness of a local agency; and which focuses more net resources on local investment and economic development. The CCA will be a locally owned agency controlled by the region's customers through their representatives.

The Scope of Work may be modified as a result of the consultant selection process based on the chosen consultant's insights into how best to achieve the program's goals and how the consultant would propose to capture those activities in the modeling. This may include consideration of current CCA program designs and implementation pathways, and recommending improvements that minimize risks to the local government and accelerate the program timeline. Thus, the Scope of Work includes opportunities for an exploratory process to finalize the program design and sequence of study tasks at the PDAC/TWG using the chosen consultant's expertise for guidance.

Technical Study Goals

The Technical Study will identify strategies, tactics and planning tools consistent with the following goals:

- The study will analyze the entire target region (3 Counties, 21 Cities) and each individual County inclusive of all the cities therein
- Rate parity (or better) with PG&E and lower rate escalation than PG&E over time
- An electric supply portfolio with overall carbon content lower than the carbon content of PG&E's electric supply profile
- Meet or exceed the California Renewable Portfolio Standard (RPS)
- A energy purchase portfolio which does not include specific purchases of coal or nuclear power and minimizes purchases of system power
- A project development and ownership strategy which increases the development of renewable energy projects (in state and local) to achieve reductions in greenhouse gases (GHG) from generation of electrical energy and expands opportunities for

local ownership and investment in energy assets

- An energy portfolio which includes as much local renewables as possible
- A financially sustainable and flexible business model which supports investment in and the local build out of distributed energy resources (DER), local energy conservation and energy efficiency programs including but not limited to solar photovoltaic, solar hot water, combined heat and power (CHP), small wind, demand response and dispatch, energy efficiency, electric vehicle managed charging, advanced energy storage (AES) and nano-/microgrids
- Identification of potential economic benefits to the region (jobs, increased local energy investment, and reduced energy imports)

Technical Study Scope of Work

1) Load Analysis

   a) Work with the PDAC / TWG to define regionally or geographically appropriate aggregated load categories which may comprise combinations of residential, commercial, industrial, municipal, institutional, agricultural, and transportation end-use electric consumer groups within Santa Cruz, Monterey, and San Benito Counties including data from all County municipalities.

      i) Request/receive Investor Owned Utility (IOU) data

      ii) Review, format, import data into analytical framework

      iii) Prepare summary level data

   b) Analyze impacts to energy use and energy requirements to quantify resource needs

      i) Identify regional growth projections with Association of Monterey Bay Area Governments (AMBAG) and PDAC / TWG

      ii) Determine if a review of California Independent System Operator (CAISO) sales data is appropriate and what data should be reviewed

      iii) Estimate potential load reduction from energy efficiency or distributed generation

      iv) Estimate potential opt-out rates (model at least 20%)

      v) Estimate energy use and reflect change in data set

   c) Electric energy and demand load profiles for regionally or geographically appropriate aggregated load categories will be used to render a composite CCA electric load and load shape forecast for Santa Cruz, Monterey, and San Benito Counties. Load categories should be developed to model a likely phase-in of the program.

      i) Identify projected future energy consumption for CCA customers

      ii) Discuss projections with designated PDAC / TWG project contacts

      iii) Finalize forecast to be used in feasibility assessment

   d) Additional energy requirements will be determined based on a number of factors such as load profiles, geographic factors, distribution line losses, RPS requirements, and resource adequacy obligations.

      i) Peak energy requirements

      ii) Resource adequacy (capacity reserve) obligations

      iii) Energy necessary to compensate for distribution line losses

      iv) RPS Supply requirements

      v) Identify any other energy requirements

      vi) Prepare summary in format suitable to support power solicitation

      vii) Discuss projected requirements with PDAC / TWG

2) IOU Rate Analysis

a) Review current and historical rate trends and structures to develop rate projections over 5, 10, 20-year forecast

i) Review current and historic IOU rate trends and structures to develop rate projections over 5, 10, 20-year forecast based on RPS Scenarios

ii) Identify other factors that may affect rate comparison (examples include combinations of the following: high gas, low gas, high hydro, low hydro, etc., and rate restructuring)

iii) Identify IOU costs embedded in rate forecast for direct comparison to CCA costs

iv) Discuss assumptions with designated PDAC / TWG representatives and agree on pertinent items affecting IOU rate projections

b) Prepare utility rate forecast under continued IOU service scenario

i) Based on IOU rate forecasts and other independent rate forecasts, compile electric generation service cost/ payment estimates for prospective CCA customers in consideration of applicable IOU rate schedules

3) Preferred Supply Portfolio Selection

a) Electric Supply requirements

i) Electric supply scenarios (ESS) are based on variations in the overall renewable energy content, renewable resource composition (e.g., in-state, in-county, out-of-state, renewable energy credits, technology preferences), and non-renewable portfolio attributes (e.g., system purchases, natural gas, hydro-electric). The scenarios may be further defined based on input from the chosen consultant in coordination with the PDAC / TWG. At a minimum, the study will analyze the following electric supply scenarios:

(1) ESS 1: Determine rates for a portfolio that meets, at a minimum, the requirements of the RPS. Renewable energy procurement would be allowed in all three portfolio content categories as determined by the State.

(2) ESS 2: Determine rates for a portfolio that meets, but does not exceed the requirements of the RPS. Renewable energy procurement would be limited to portfolio content categories one and two.

(3) ESS 3: Determine rates for a portfolio that meets, at a minimum, the requirements of the RPS. Renewable energy procurement would be allowed in all three portfolio content categories. The use of portfolio content category three RECs would be phased out over an established timeline.

b) Identify CCA cost of power working with designated electric supply scenarios.

i) Correspond with potential Electric Service Providers (ESPs) to determine indicative energy, capacity and renewable energy pricing as well as CAISO and administrative costs of CCA operation

ii) Discuss assumptions and planned operational/organizations elements of the CCA program with designated PDAC / TWG project representatives to develop accurate cost projections

iii) Document cost-based assumptions/inputs for future reference

iv) Quantify cost of service under each scenario and related rate impacts Consultant will estimate the projected costs for each supply portfolio scenario.

v) Discuss analytical results with PDAC / TWG

c) Estimate projected environmental impacts. Consultant will estimate the projected GHG emissions profile for each supply portfolio scenario using publicly available data sources.

d) Sensitivity Analyses. Consultant will prepare sensitivity analyses for each supply scenario showing the projected impact to program costs for variations in the following input cost variables:

i) Market prices for conventional (non-renewable) energy

ii) Market prices for renewable energy based on preferred technologies

iii) PG&E generation rates and customer surcharges (considering the effect of the 33% RPS)

iv) Customer opt-out rates

e) Coordinate rate analysis with customer market survey (existing Marin/Sonoma surveys and separate local survey) testing proposed electrical supply scenarios and the elasticity of customer response to increased rates and other supply variables (e.g., 50%, 75%, 100% renewable energy portfolio)

f) Discuss findings and strategies with PDAC

i) Modify parameters as appropriate based on discussions

g) Presentation to PDAC steering committee, project management and staff regarding results of cost comparison and prospective modifications to program design parameters

i) Develop presentation materials and deliver presentation

4) Cost of Service Analysis

a) Provide insight into how best to achieve the program's goals and capture those activities in the modeling. Consider current CCA program designs and implementation pathways, and recommend improvements that minimize risks to the local government and accelerate the program timeline.

b) Pro Forma development in consideration of each Preferred Supply Portfolio Selection. Assemble known and predictable cost-of-service variables and incorporate these into base-case analyses. Predictable cost-of-service variables include:

i) Energy Costs- Variable inputs for resource portfolio mixes to include:

(1) Forecast spot market prices

(2) Long-term and short-term power contracts (for wholesale products such as 6X16, 7X24 power products)

(3) Renewable Energy minimums as required under SBXl-2, or in excess of this minimum per electric supply scenarios

(4) Transmission scheduling coordination costs

(5) Transmission congestion impacts

(6) Ancillary services costs and other grid services

ii) Start-up costs

iii) Cost of Capital

iv) Operating and Maintenance Costs

(1) Administrative and general expenses

(2) Staffing

(3) External technical/legal/marketing/PR support

(4) Billing, metering, and collections

(5) Customer service (call center) and data management

(6) Scheduling and coordination

v) Uncollected accounts

vi) Program reserves

vii) CCA Bonding for Reentry Fees

viii) PG&E surcharges, Cost-Recovery Mechanism [exit fees]

ix) Characterize and evaluate feed in tariff and net energy metering programs that would encourage development of renewable energy generation projects in the region by offering customers a sustained reliable payback on their investment in renewable energy and sustainable local generation system

b) Perform 5, 10, 20-year IOU vs. CCA cost comparison (or consistent with term of financing)

i) Based on the various scenarios identified by PDAC / TWG and inputs to the pro forma, determine how the CCA is expected to perform relative to PG&E in regards to customer rates, environmental performance, and complementary energy programs.

c) Determine potential economic benefits and challenges as well as strategies for enhancing customer benefits, reducing costs and/or administrative/organizational overhead. Evaluate, alternative structural approaches to CCA implementation, as necessary

d) Presentation to PDAC steering committee, project management and staff regarding results of cost comparison and prospective modifications to program design parameters

i) Develop presentation materials and deliver presentation

5) Development of Complementary Energy Programs

a) The chosen consultant should provide recommendations for complementary energy programs that are consistent with the overall goal of a financially sustainable business

model which supports investment in and the local build out of distributed energy resources (DER), local energy conservation, and energy efficiency programs. Scope the cost and work plan to evaluate complementary energy programs in terms of return on investment, cost/benefit, GHG reductions, and additional economic impact analysis as recommended by the consultant. Examples of complementary programs include but are not limited to: solar photovoltaic, solar hot water, combined heat and peer (CHP), small wind, demand response and dispatch, energy efficiency, electric vehicle managed charging advanced energy storage (AES) and nano-/microgrids

i) Energy Efficiency: Programs such as "time of sale", consulting services, rebates, direct installation, and other incentives (e.g., refrigerator, washing machine and dryer replacement programs).

ii) Demand Response: Programs to promote reductions in demand peaks. Example: Reduce peak load and overall demand through targeted incentives (e.g., lighting controls, HVAC upgrades, electric vehicles, time of use billing).

iii) Local Power Generation: Local renewable and carbon neutral power projects.

iv) On-Bill Financing Program: Establish an on-bill financing energy efficiency and renewable energy projects.

v) Develop benefit sharing programs which allow individual customers to benefit from the development of large scale renewable facilities.

vi) Develop targeted grass roots outreach and social marketing programs which engage customers and make distributed energy resources accessible and understandable.

6) Report of Technical Study Results

a) Report Development:

i) Prepare a draft study report that details the results of the technical study, including recommendations for CCA organization and implementation. Assess the overall cost-benefit potential to support a threshold decision to move forward with CCA. Costs shall include upfront program development and implementation costs as well as net ratepayer costs over the forecast period. Quantifiable benefits shall include net GHG reductions, expanded use of renewable energy resources, local economic development, and reduced exposure to volatile fossil fuel costs.

(1) Pro forma report, including cash flow analysis, detailing costs and projected benefits under three electric supply scenario assumptions.

(2) Pro forma reports detailing costs and projected benefits under sensitivity case assumptions.

(3) Pro forma reports detailing costs and projected benefits of phasing in customer load over time

b) First Draft: The report shall be prepared in draft form and submitted to PDAC / TWG for review and approval in accordance with the deliverables timeline. PDAC / TWG will return 1 copy of the draft report to Consultant with comments or approval in writing within 14 calendar days.

c) Subsequent Draft(s): If PDAC / TWG requests revisions, Consultant shall revise the draft report and resubmit the report for PDAC / TWG approval.

d) Final: Following PDAC / TWG approval and prior to PDAC / TWG acceptance of work under this Agreement, Consultant shall submit the final approved report to PDAC / TWG.

e) Presentation to PDAC / TWG steering committee, project management and staff regarding feasibility report and related recommendations

   i) Develop presentation materials and deliver presentation

f) Presentation to public regarding feasibility study findings and recommendations

   i) Develop presentation materials and deliver presentation