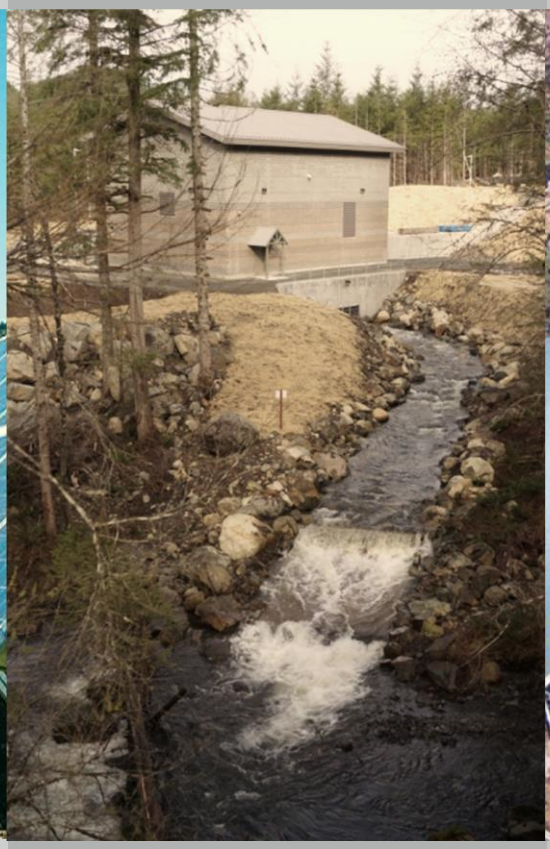
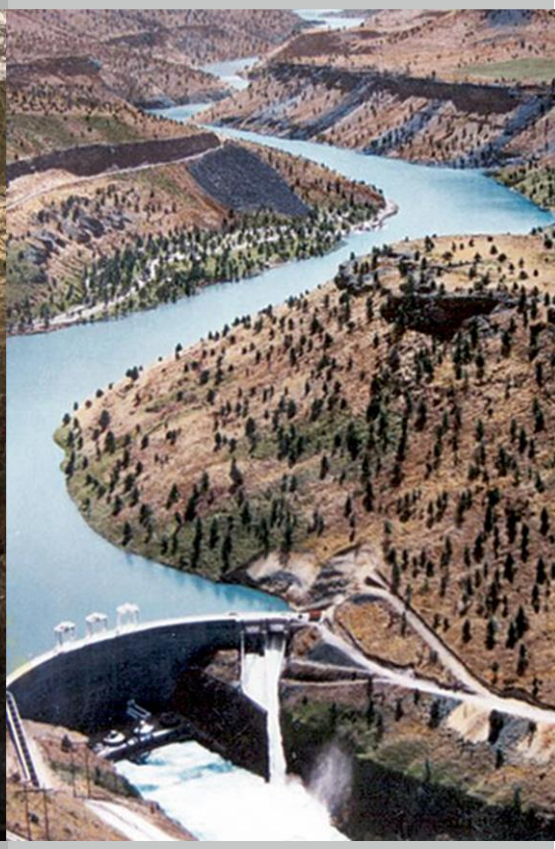
City of Chula Vista and La Mesa

Request for Proposal RFP P08-18/19

Community Choice Aggregation Technical Feasibility Study Services

November 2018





EES Consulting, Inc.

A registered professional engineering and management consulting firm with offices in Kirkland, WA, Portland OR and La Quinta, CA

570 Kirkland Way, Suite 100
Kirkland, Washington 98033

Telephone: (425) 889-2700

www.eesconsulting.com

EES Consulting, Inc.

November 19, 2018

Mr. Victor De La Cruz
City of Chula Vista
276 Fourth Avenue
Chula Vista, CA 91910

SUBJECT: RFP 08-18/19 – Community Choice Aggregation Technical Feasibility Study Services

Dear Mr. De La Cruz:

EES Consulting, Inc. (EES) is pleased to submit this proposal to prepare a Community Choice Aggregation (CCA) Technical Feasibility Study (Study) to the Cities of Chula Vista and La Mesa (Partners).

EES has previously prepared CCA Feasibility Analyses, Business Plans and Implementation Plans for the Counties of Los Angeles, Alameda, and Ventura, the San Bernardino Associated Governments, the Coachella Valley Association of Governments, Western Riverside Council of Governments, and the City of San José, and is currently preparing a CCA feasibility study for Butte County and the Cities of Encinitas, Carlsbad, Del Mar and Oceanside. EES has also provided CCA Feasibility Peer Review services for the City of Solana Beach and King City and is currently peer reviewing CCA feasibility studies for the City of San Diego. In addition, EES has recently been hired by Sustain OC to perform a CCA feasibility study for Orange County. Finally, EES is an ongoing participant in numerous CCA-related regulatory proceedings at the California Public Utility Commission (CPUC), including the recently concluded Power Charge Indifference Adjustment (PCIA) review proceeding (R.17-06-026).

EES personnel have expertise in all areas of electric utility operations, which has developed over our 40 years of working as a full-service engineering, financial and regulatory consulting firm for the electric utility industry. EES professional staff members have backgrounds in engineering, economics, finance, financial analysis, resource development, distributed energy resources (DER), wholesale power and gas markets, public administration, operations research, telecommunications and utility management. Prior to consulting, many of our principals have worked for a utility or regulatory agency. This understanding of the day-to-day workings of a typical utility is invaluable in working

570 Kirkland Way, Suite 100
Kirkland, Washington 98033

Telephone: 425 889-2700 Facsimile: 425 889-2725

A registered professional engineering corporation with offices in
Kirkland, WA, Portland, OR and La Quinta, CA

with clients and managing projects in an efficient and cost-effective manner. In addition, the senior staff at EES have professional licenses and/or one or more graduate degrees to supplement their practical experience.

Our broad base of clients includes utilities and industrial companies located throughout North America, with a focus on municipalities, cooperatives, CCAs and public power utilities. EES has a track record of success in arenas where the results of the evaluation or analysis may have far reaching effects on the viability of an organization and the local community. Because of the size of our firm and our highly qualified staff, we can deliver results in less time and with less expense to our clients. We are responsive and focused on cost-effective solutions for our clients' needs, and always recommend the most direct and efficient means of carrying out a project. The success of our approach has resulted in the large volume of repeat business that EES enjoys.

This proposal will remain valid, including all pricing proposals, through the duration of the project.

We look forward to working with the Partners on this interesting project and hope to hear back from you soon. In the meantime, feel free to call me with any questions.

Very truly yours,

Gary Saleba
President/CEO

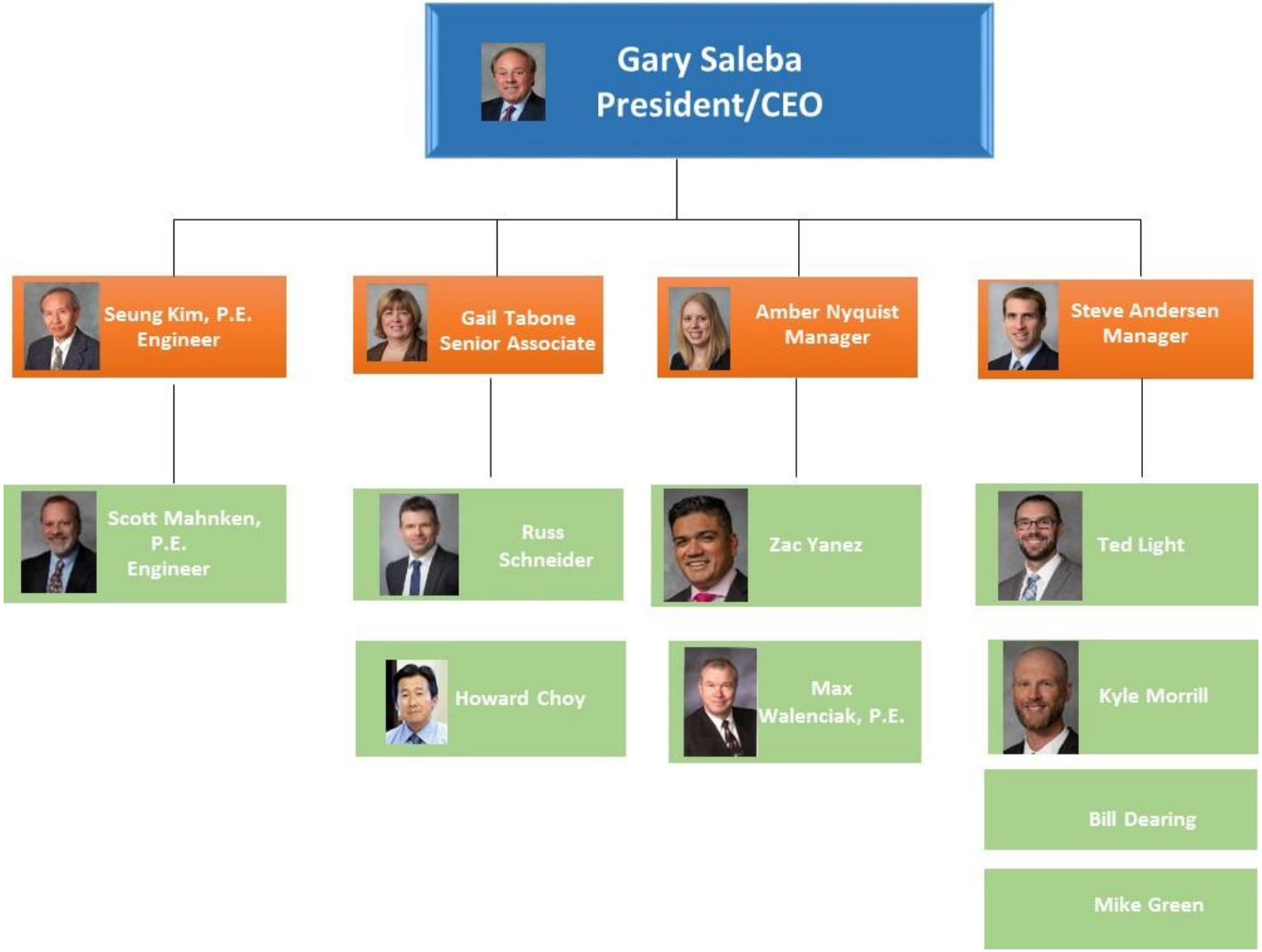
Contents

General Information

EES Consulting, Inc. (EES) is a registered professional engineering and management consulting firm that has been serving the utility industry since 1978 with offices in Kirkland, Washington; Portland, Oregon; and La Quinta, California. We have over 500 utility clients across North America with our primary focus within the Western Electricity Coordinating Council (WECC) reliability area. EES's professional staff have backgrounds in the areas of engineering, economics, finance, public administration, operations, research and general management. EES offers a range of utility management services including resource planning, financial analysis, cost of service analysis, rate studies, load forecasting, market analysis, and regulatory compliance and analysis. A full description of EES's lines of business, personnel, and clientele can be found on our website at: www.eesconsulting.com.

CCA Experience: EES has previously prepared CCA Feasibility Analyses, Business Plans and Implementation Plans for the Counties of Los Angeles, Alameda, and Ventura, the San Bernardino Associated Governments, the Coachella Valley Association of Governments, Western Riverside Council of Governments, and the City of San José, and is currently preparing a CCA feasibility study for Butte County and the Cities of Encinitas, Carlsbad, Del Mar and Oceanside. EES has also provided CCA Feasibility Peer Review services for the City of Solana Beach and King City and is currently peer reviewing CCA feasibility studies for the City of San Diego. In addition, EES has recently been hired by Sustain OC to perform a CCA feasibility study for Orange County. Finally, EES is an ongoing participant in numerous CCA-related regulatory proceedings at the California Public Utility Commission (CPUC), including the recently concluded Power Charge Indifference Adjustment (PCIA) review proceeding (R.17-06-026).

The following organizational chart outlines EES's management consulting team:


Gary Saleba
President/CEO
Seung Kim, P.E.
Engineer
Gail Tabone
Senior Associate
Amber Nyquist
Manager
Steve Andersen
Manager
Scott Mahnken, P.E.
Engineer
Russ Schneider
Zac Yanez
Ted Light
Howard Choy
Max Walenciak, P.E.
Kyle Morrill
Bill Dearing
Mike Green

Qualifications

EES Staffing

As noted in the previous section, EES has worked with numerous CCA clients throughout California fulfilling tasks including feasibility analysis, peer review, regulatory compliance, financing, CPUC monitoring, and CCA implementation technical consulting. The project team proposed for this project is the same team that has completed EES's previous CCA work and therefore brings substantial experience and subject-specific knowledge on CCA issues. Narrative resumes for staff members are included in Appendix A.

Name	Position	Project Role
Gary Saleba	President and CEO	Project Lead, Primary Contact
Gail Tabone	Senior Associate	Quality Assurance
Steve Andersen	Manager	Power Supply
Amber Nyquist	Manager	Financial Proformas
Zac Yanez	Project Manager	Financial Proformas
Ted Light	Project Manager	Technical Assistance
Kyle Morrill	Senior Analyst	Technical Assistance
Russ Schneider	Senior Analyst	Technical Assistance
Seung Kim, P.E.	Electrical Engineer	Technical Assistance
Scott Mahnken, P.E.	Civil Engineer	Technical Assistance
Howard Choy	Senior Associate	DER and Regulatory Compliance

Gary Saleba, President/CEO
Role: Project Leader, Quality Control
Years of Employment with EES: 39 years
M.B.A., Finance, Butler University, Indianapolis, IN / B.A., Economics & Mathematics, Franklin College, Franklin, IN

Gary Saleba will serve as the Project Leader and primary contact for the Partner cities on this project. Gary has over 30 years of experience at EES providing expertise on utility and electric power issues to communities, utilities, and governments. Gary has served as Project Leader on EES's previous CCA work, providing quality assurance and counseling advice to clients. Gary is also responsible for EES's corporate management, financial and strategic planning engagements primarily for electric, natural gas and water utilities. He has extensive experience in the areas of utility rate design, revenue requirement analysis, cost of service, financial planning, management audits, professional development educational seminars, marketing, consumer research, forecasting, integrated resource planning, cost-benefit analyses, overall strategic planning, power procurement, and mergers and acquisitions.

Having worked as a utility employee, Gary combines an extensive background as both a utility industry expert and a management consultant. He is able to draw upon this professional and educational experience to manage projects including comprehensive utility feasibility studies, cost of service studies, strategic planning, and management critiques for clients throughout North America. His experience extends to alternative fuel cost comparisons, econometric forecasting models, resource planning and reliability studies. Gary has participated in numerous generic utility

proceedings, testified before over 200 regulatory bodies and courts of law, and coordinated over 500 utility planning and operational studies.

Gary has served on numerous energy and natural resource-related trade associations, including as Chairman of the American Water Works Association Financial Management Committee and Management Division. He has also served on the board of directors for the Northwest Public Power Association and on the Board of Directors for ENERconnect, Inc., a bulk power aggregation and procurement entity serving the municipal utilities in the Province of Ontario.

Gail Tabone, Senior Associate
Role: Assistant Project Leader, Quality Control
Years of Employment with EES: 25 years
M.S., Agricultural and Applied Economics, University of Minnesota / B.S., Economics, University of Minnesota

Gail has over 25 years of experience in short- and long-term utility planning related to both operations and financial analysis. Gail has managed projects concerning power supply planning, load aggregation, cost of service and rate analyses, and regulatory proceedings. Her experience includes power supply management for large public utilities. These projects included load forecasting, optimization of resource and contract options, procurement and negotiations for power supply, power supply cost estimation, negotiating transmission contracts, auditing of scheduling and dispatching services, rate design and devising customer choice programs.

Gail participated in the utility deregulation process very early on when she assisted an Alberta municipal utility through the deregulation that occurred in that Province resulting in the establishment of a power pool and a grid operating company. She was involved in strategic planning and regulatory intervention for the utility and performed an unbundled cost of service study incorporating the new power supply and transmission costs.

Gail has been actively involved in resource planning, evaluating resource proposals and negotiating contracts for numerous utilities. She has assisted a group of public utilities with load aggregation, evaluation of power supply proposals, and negotiations for supply and transmission contracts. She has also assisted municipal utilities in California in transmission rate design and has worked for publicly-owned utilities with respect to participation in the California ISO.

Gail is skilled at determining clients' needs in the changing utility environment. She develops unique approaches to the analysis of issues facing each client. While her primary focus is economic, she also has a thorough knowledge of the technical issues related to power supply diversification.

Steven Andersen, Manager, Project Evaluations
Role: Power Supply Specialist
Years of Employment with EES: 21
B.S., Electrical Engineering, University of Washington

Steve has over 20 years of experience developing wholesale power supply pricing and financial analysis for electric utilities. Steve's broad knowledge of the engineering field enables him to handle technical issues and provide economic and technical analyses for utility and industrial clients of EES. He has evaluated power supply proposals for many utilities across the U.S. His background in power engineering also allows him to assess technical barriers to savings in the changing electric industry.

Steve has been responsible for managing the interplay of multiple power supply contracts for major electric utilities. He has monitored the hourly loads and power schedules and recommended changes to economically optimize the utilities' various resources. He has also negotiated and implemented short and long-term power supply and transmission contracts on behalf of the utilities.

Steve has prepared integrated resources plans for both large and small utilities and has performed resource feasibility studies for both utility and industrial clients. He has performed cost of service analyses for many utilities. This analysis includes developing rates for residential, commercial and large industrial customer classes. He has also audited the power supply costs of large industrial corporations and suggested options for reducing their overall costs. Steve has experience monitoring gas and electric markets, and recommending purchases based on potential savings in total power supply costs. He is familiar with the functionality of hourly, daily, monthly, and long-term energy markets.

Amber Nyquist, Manager, Economic Evaluations
Role: Load Forecasting Specialist
Years of Employment with EES: 11
M.A., Economics, Simon Fraser University / B.A., Economics, Western Washington University

Amber has over 10 years of experience advising electric power and Community Choice Aggregation clients. Amber provides analytical expertise for EES in support of economic and financial studies. She offers experience and knowledge to a wide range of topics related to regulated utilities. Her background includes cost of service analysis, electric rate design, wholesale rate setting, and other power supply costs or related information. She assists in Integrated Resource Planning as well as independent resource evaluation. Specific areas of expertise include demand-side and conservation resources, geothermal, wind, renewable energy credits, gas-fired, and other resources.

In addition to resource planning, Amber uses her background in econometrics and data analysis to develop load forecasts, normalize electric loads according to weather, and to develop market price forecasts. She also conducts conservation program evaluations and provides utilities with statistically significant results, which assist in utility program planning, data collection, and presentations. Amber has performed over 50 conservation potential assessment studies for electric utilities on the west coast.

Zac Yanez, Project Manager
Role: Financial Proformas
Years of Employment with EES: 1
B.A., Finance, University of Texas at Austin

Zac Yanez brings 17 years of experience and a strong utility, economic, and engineering background to EES. Mr. Yanez leverages strong analytical expertise to support financial studies and regulatory research. Prior to joining EES, Mr. Yanez held several positions within the utility industry, in both public and investor-owned utilities. His background spans operations, regulatory policy analysis and support, resource acquisition, resource evaluation, conservation planning, resource portfolio planning and optimization, as well as economic and financial analysis. His varied background provides a unique perspective and a holistic understanding of utility issues. Mr. Yanez holds a B.B.A in Finance from The University of Texas at Austin.

Ted Light, Project Manager
Role: Technical Assistance, DSM Support
B.S., Aeronautical & Aerospace Engineering, Purdue University
Certified Energy Manager (CEM)

Ted Light is a Project Manager with a specialty in energy efficiency and demand-side management. He brings nearly nine years of experience to EES, having worked previously for the Energy Trust of Oregon, the non-profit energy efficiency and renewable energy program administrator for Oregon's investor-owned utilities. He has expertise and knowledge on a broad array of energy efficiency program management and planning topics including: conservation/DSM potential assessments, conservation program planning, program data analysis, and cost-benefit analyses. Ted is a Certified Energy Manager with the Association of Energy Engineers and holds a B.A. in Aerospace Engineering from Purdue University.

Kyle Morrill, Senior Analyst
Role: Technical Assistance, DSM Support
M.A., Economics, University of Colorado Denver
B.S., Economics, University of Puget Sound

Kyle Morrill provides analytical expertise for EES in support of economic and financial studies. Mr. Morrill offers experience and knowledge to a wide range of topics related to regulated utilities. Mr. Morrill's background includes economic analysis, econometric forecasting, municipal solid waste policy and demand-side management analysis. In addition to his background in economics, Mr. Morrill is also trained in data management and research. He has lead data management and collection for research institutions and local government assisting in policy and demographic analysis.

Russell Schneider, Senior Financial Analyst
Role: Technical Assistance
M.S., Engineering Technology Management, Washington State University
B.A., Economics, Reed College

Russell Schneider is a Senior Financial Analyst with expertise in financial planning, power supply, transmission, strategic planning, resource development, forecasting, risk analysis, smart grid, meter data management, and rate design. Russ brings 15 years of experience and a strong economic, engineering, and technology background. He has utility experience completing load research, rate design, cost of service, automated meter reading cost-benefit, power requirement, load forecast, conservation potential, and other financial studies. Russ regularly presented at trustee meetings on forecasting, risk, reliability, power supply and transmission issues for many years. Russ has also been actively involved in the areas of smart grid, demand response, energy efficiency, and state-level legislative issues.

Seung Kim, P.E., Senior Electrical Engineer
Role: Technical Assistance
B.S., Electrical Engineering, Seoul National University, University of Washington
M.S., Electrical Engineering, University of Washington

Seung Kim has over 35 years of broad experience in electrical design and consultation. As project manager and lead electrical engineer, he is experienced in all phases of hydroelectric and power system design and implementation. Mr. Kim has performed condition assessment, conceptual and feasibility studies, specification development, bid evaluations, and provided assistance during construction of projects. His areas of interest include switchgear, protective relaying and controls, transformers, SCADA systems, communications and instrumentation systems. Mr. Kim has prepared procurement and technical specifications, one-line and three-line diagrams, control schematic and wiring diagrams, and equipment layouts. He has hands-on experience in designing, assembling and testing of relay control panels and switchgear equipment. Mr. Kim is a registered electrical engineer in nine states, including California.

Scott Mahnken, P.E., Senior Civil Engineer
Role: Technical Assistance
B.S., Civil Engineering, Colorado State University

Scott Mahnken is experienced in the design of concrete structures, earthen and concrete dams, tunnels and other structures related to hydropower projects. He has been involved in every phase of project development, from reconnaissance and planning, to final design and construction inspection. He has experience designing dams, spillways, intake structures, steel pipelines and penstocks, and powerhouses. Mr. Mahnken has served as a FERC-approved independent consultant responsible for safety reviews (Part 12 inspections) of hydroelectric projects. Mr. Mahnken has prepared contract documents, plans and specifications for construction for more than 20 projects. He has administered subcontracts to perform geotechnical and surveying work. As engineer for the owner on several projects, he has reviewed and commented on other engineer's plans and designs.

Howard Choy, Senior Associate
Role: DER and Regulatory Compliance
B.S., Mechanical Engineering, University of California at Berkeley
Registered Professional Engineer and Certified Energy Manager, California

Howard Choy brings more than 30 years of diversified experience in the energy industry. Howard has spent the past 17 years managing the Los Angeles County Office of Sustainability, which manages energy and environmental programs for both municipal operations and the Los Angeles County region. Howard will head up the project team's DER evaluation and assist in regulatory compliance activities.

Work Plan

EES President and CEO, Gary Saleba, will serve as Project Lead and Point of Contact for Partner staff on this project. Gary has lead the EES team in the development of CCA Feasibility Analyses for numerous municipal and county entities across California. Leveraging this experience, the EES team can guarantee its ability to deliver results on schedule and on budget. EES will work closely with staff from the Partners to account for the priorities and concerns of the cities and their communities in the analysis. These priorities may include offering competitive rates, creating local economic benefits, and reducing environmental impacts from electricity generation.

In summary, EES will assist staff from Partners in evaluating the data needs for the feasibility analysis, submitting the request for that data to San Diego Gas and Electric (SDG&E), and then verifying the satisfactory fulfillment of that data request. EES will then develop a load forecast, power supply scenarios, a comparative rates analysis, an economic impacts assessment, environmental review of possible greenhouse gas emission changes and a pro-forma analysis for the potential CCA. EES will also conduct an extensive sensitivity analysis exploring a range of possible outcomes for key variables in the analysis. This will be combined with an analysis of possible regulatory changes and risks to the CCA. Finally, EES will explore possible models for the CCA's governance and management as well as external funding options.

Throughout the study process, EES will check-in regularly with staff from the Partners to provide updates, solicit feedback, and ensure client expectations are fulfilled. EES will document all methods and assumptions used in the analysis and provide the Partners with its analytical modeling tools to ensure that the Partners are comfortable with the model inputs and results. A draft study will be provided to the Partners for review at least one month before the agreed on final study submission date. EES will then be available to present the study to staff, city councils, or community groups as needed by the Partners. Each of the key major components of this project's scope of work are detailed below.

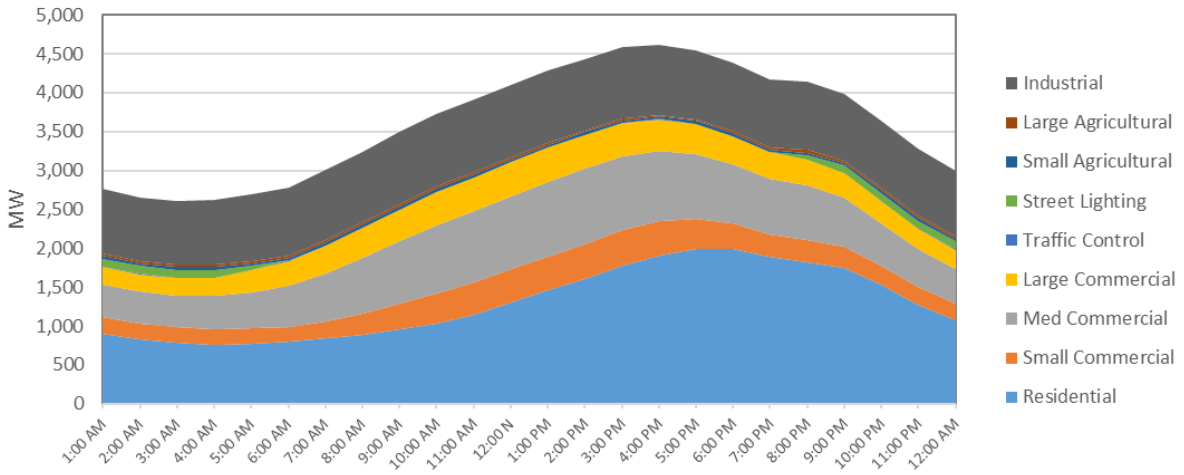
1. Load Study and Forecast

EES will request, receive, and verify three years of historic load data from SDG&E for each of the Partners' service areas. EES will then develop a load forecast for each of the Partners individually as well as combined. Load data will be aggregated by rate schedule for monthly energy use, peak demand, and number of accounts. Customers currently receiving Direct Access (DA) service will be excluded from the analysis, as these customers, at least initially, do not typically participate in CCAs. In addition, the load forecast will take into account the potential for expansion under the new DA caps.[1] EES will draw on the customer participation rates at other CCAs across California as well as local demographic factors to estimate a base-case opt-out rate for the Partners. EES will use energy growth rate forecasts published by the California Energy Commission to model a base-case scenario of load growth into the future. The load forecast will take into account behind the meter generation, storage, and line losses.

[1] CA SB 237 increases the direct access cap by 4,000 GWh

EES has already developed the software model to process raw SDG&E customer data and translate it into the necessary load curves such as in Figure 1 below. Having this data software and being familiar with SDG&E data processes is a big advantage for EES. EES will use this model to estimate monthly peak demand for each rate class to determine the CCA's resource adequacy requirements (RAR). SDG&E standard transmission and distribution losses will then be applied to evaluate wholesale energy purchase needs. Load reduction from energy efficiency, distributed energy resources, such as from small-scale solar or from energy storage, will be modeled separately to allow for analysis of several scenarios based on economic and technical potential.

Figure 1
Sample Load Profile – Typical SDG&E Summer Weekday Load Profile by Customer Class



Based on the load-forecast output, EES will work with the Partners to develop a possible phase-in scenario for the CCA. CCA phases typically use rate schedule, account ownership, or geographic regions to differentiate customers into groups for a staggered CCA roll-out that can then be implemented more smoothly than if all accounts were launched simultaneously.

2. Rate Analysis and Comparison

Electricity rates for CCA customers include three components: the CCA's cost of generation, SDG&E's cost for transmission and distribution (T&D), and regulated charges such as the Power Charge Indifference Adjustment (PCIA). Based on the outputs of the load forecast and CCA power supply scenario analysis, EES will develop a rate projection for each of these components for the potential CCA, as well as the competing SDG&E rates out to 10-years. A discussion of how rate structure impacts CCA customer savings will also be included in the analysis.

The CCA generation cost is primarily determined by the cost of power procurement and scheduling, then secondarily by the cost of operating the CCA. Base case procurement cost assumptions will be informed by the power supply scenarios described in the following section. To arrive at power supply cost, EES will draw on current energy market trends, forecasts of market and renewable price projections, and the large EES data base of power cost forecasts derived from numerous other CCA feasibility studies. High and low price scenarios for each of these inputs will be assessed as part of the sensitivity analysis.

CCA operational costs include the cost of capital, data management, uncollected accounts, staffing, facilities, legal, and regulatory costs such as the CCA surety bond. EES will also evaluate the impacts of potential CCA customer programs such as a feed-in tariff, net energy metering, or other such programs operated by the CCA to encourage renewable energy project development within its service territory. These programs will be evaluated for potential financial and environmental benefits to the CCA and its customers.

Based on these expenses, EES will estimate the total CCA revenue requirement (budget) and resulting unit costs (rates) for 10-years of operation. Projected revenues will be compared to the annual revenue requirement to identify a rate for existing monthly rates and charges. If necessary, the Plan can be tailored to phase-in rate changes over time.

EES will also evaluate the range of possible regulated surcharge costs, such as for the PCIA. The PCIA is a charge applied by the CPUC to ensure that IOU stranded generation costs are not disproportionately passed on to SDG&E's remaining bundled customers as CCAs are formed. EES monitors all CCA-relevant CPUC proceedings very closely to ensure our regulated charge forecast accounts for the most up-to-date regulations. The sensitivity analysis will also explore a range of possible PCIA rates and scenarios.

Finally, EES will project SDG&E's power supply costs based on SDG&E's latest power supply filings, procurement strategy, projected generation costs, and RPS requirements. SDG&E's T&D rates will be forecast based on distribution system investment trends, recent rate filings, and the revenue requirements stated in SDG&E's most recent CPUC filings. Additional sources of variability, such as high and low gas and hydro pricing, and larger economic trends will be explored as part of a sensitivity analysis.

3. Supply Scenario Analysis

EES will work with staff from the Partners to develop multiple power supply scenarios that match the needs and priorities of the communities. Scenarios may vary in their share of renewable energy, greenhouse-gas free energy, locally generated energy, and use of specific generation technologies. All scenarios will consider that consumers would be able to opt-up to a 100% renewable option, which would be offered on a voluntary basis, with a substantial portion of the electricity from in-State and local renewable resources. One possible set of scenarios might look as follows:

- **Option 1:** Match SDG&E's share of RPS-compliant and GHG-free generation.
- **Option 2:** Minimum 50% RPS compliant power.
- **Option 3**: Minimum 75% RPS compliant power.
- **Option 4**: Launch CCA operations with 75% RPS-compliant power and build to 100% RPS-compliance by 2030.

The project team will review potential electric service providers, the cost of using these power sources, and their capacity to serve the Partners. The cost of service will be quantified under each scenario, and related rate impacts and estimates of the projected costs for each supply portfolio scenario will be provided. To evaluate such local opportunities for the CCA, the project team will correspond with potential electric service providers to determine indicative pricing, as well as CAISO and administrative costs. Category 3 renewables will not be included in the portfolio analysis. This analysis will also estimate costs associated with scheduling and ancillary services.

The energy procurement analysis will also explore alternative supply options such as energy efficiency programs and local renewable projects (e.g., net energy metering, distributed generation, community solar, etc.). Finally, EES will calculate the GHG emissions reductions of each power supply scenario to ensure the resource portfolios meet each jurisdiction's GHG reduction goals.

4. Pro-Forma Analysis

EES will prepare a pro-forma financial model that can be adjusted and re-run to evaluate CCA viability under multiple organizational and governance scenarios (i.e. each jurisdiction operating independently or both together). The pro-forma will include a cash-flow analysis with itemized annual CCA operating expenses over the 10-year analysis period. These costs will include start-up costs, CCA surety bond, cost of capital, data management, staffing, customer service, legal services, marketing, accounting, and all power procurement costs such as scheduling, transmission, and surcharges. EES will detail collection of reserves to provide emergency rate stabilization for the CCA in the future. These operating costs will be based on the operating costs of existing CCAs and scaled for the size of the program. Based on these expenses, EES will estimate the total CCA revenue requirement and resulting unit costs for 10-years of operation. The analysis will address the minimum viable number of customers for each CCA. To tie these components together, the pro-forma will develop a cost-benefit analysis of the potential program.

The pro-forma will evaluate CCA financial feasibility under up to five geographic scenarios as determined by the Partners.

5. Sensitivity Analysis

EES will examine CCA viability under a wide range of values for all key inputs in the analysis. This analysis will ensure that the recommended resource plan is appropriate under unexpected market and regulatory conditions. The sensitivity analysis will include the following variables:

- Market prices for conventional and renewable energy (high-and low-price scenarios for gas, hydro, solar, etc.)
- Program phase-in at varying supply levels
- Changes in SDG&E generation rates, Power Charge Indifference Adjustment (PCIA), and other customer surcharges
- Customer participation rates
- Partners participation in the CCA program
- Changes in policies affecting local renewables development, including possible net metering, federal solar tax credit, and wind power production tax credit changes
- Rate sensitivity to the inclusion of local renewable generation, energy efficiency, demand response, and demand reduction programs
- Identification of any anomalies, either challenges or opportunities, in the service area related to geographic, demographic, or economic circumstances
- The inclusion in the supply portfolio of renewable energy resources at levels that exceed state RPS requirements
- The inclusion in the supply portfolio of local and distributed renewable resources, energy efficiency, demand response and demand reduction programs
- Program viability under various customer opt-out rate scenarios (i.e., 2%, 5% and 10% opt-out rates)

- Program viability if other cities opt to join the CCA. Identify the factors that should be considered when adding a new jurisdiction

6. Regulatory and Risk Analysis

EES will evaluate a range of risks and risk mitigation strategies associated with CCA formation and operation. The analysis will address challenges faced by existing CCAs, as well as those anticipated for new CCAs over the next 10 years. For each risk category identified in the RFP, the study will describe causes, effects, potential impact, likelihood of occurrence, and strategies to mitigate them. Based on the results of this analysis, risks can then be anticipated and addressed through changes in program policy, contract terms, insurance, financing, and modification of management practices. Specific risks to be analyzed include:

- Power Charge Indifference Adjustment (PCIA) and other regulated surcharges
- CCA Surety Bond
- Risk of over- or under-procurement of electric power
- Market availability of renewable power
- Regulatory and legislative changes impacting CCA financial viability
- Financing and debt risks
- Financing of renewable and distributed energy resource (DER) facilities
- Labor cost risk
- Changes in federal energy policy
- CCA failure and financial risk to participating jurisdictions
- Impact to customers in the event of program failure
- Grid stability

EES is a party to key CCA-related proceedings at the California Public Utilities Commission and continuously monitors activity on key issues at the California Energy Commission and California Air Resources Board. In addition, EES monitors federal energy policies, such as the Investment Tax Credit (ITC) for solar developers and the possible solar import tariff. Changes in energy regulation at the state and local level can have significant impacts on CCA resource costs. EES will evaluate these regulatory risks and provide guidance on their likelihood and potential impacts.

7. Governance, Management, and Funding Models

The project team will evaluate three CCA governance structures: a CCA operated by a Joint Powers Authority (JPA) formed between the two CCA member governments, two separate, individual CCAs, or joining an existing CCA, such as in the City of Solana Beach, the City of San Diego, or another potential SDG&E area CCA. EES will discuss the pros and cons of each structure as they pertain to management efficiency and effectiveness, financial impacts, and decision-making autonomy and discretion. Strategies to customize programs within each jurisdiction will also be discussed. EES will also discuss different management and staffing strategies for the CCA, ranging from a completely internally staffed program to a maximally outsourced program. The project team examined similar scenarios for governance and operation of CCAs in Los Angeles County, San Bernardino and Riverside Counties, the City of San José and the Cities of Encinitas, Carlsbad, Del Mar and Oceanside.

In addition, EES will develop multiple financing plans for major capital expenditures and credit facilities, including additional debt and cash requirements. For each financing plan, the project team

will determine the impact of projected revenues and expenses on the CCA's debt-related financial ratios. If the financial targets are not met, the plan will identify deficiencies in revenues and the resulting needed rate changes.

8. Economic Impacts

Another key benefit of a CCA is to bring increased economic vitality to the communities it serves. The project team will use an economic input-output model to estimate the magnitude of CCA impacts on the economy. Specifically, EES will use the National Renewable Energy Laboratory's (NREL) Jobs and Economic Development Impact (JEDI) model to evaluate the impact of local projects on jobs and increased local spending. In addition, the project team will estimate the benefit to the local economy of trickle-down effects due to any electric bill savings to CCA customers. These bill savings will be evaluated using MIG's IMPLAN input-output model. EES will also provide an assessment of the state of the local, distributed energy resources industry in California and its potential impact to new CCAs.

9. Deliverables and Report

EES will provide regular updates on the progress of the project. In prior engagements such as this one, EES has held weekly or bi-weekly calls with the client to provide these updates, discuss key decisions, and solicit feedback. We can work around any updated schedule requested by the Partners. As noted above, EES will involve staff from the Partners to ensure the study design, power portfolio scenarios, and other key decisions are consistent with the vision of the Cities. Key decisions and discussions will be documented for reference by City staff. EES will then provide a draft Technical Study in MS Word format as well as a draft pro-forma model in MS Excel for Staff review. We will also make our work available to a third-party reviewer as needed, which we've done for several previous CCA Feasibility studies.

After review is complete, EES will provide a final version of the study and the pro-forma model. EES will present the study findings to staff, City Councils, or community groups as needed. Finally, EES will support the Partners in educating local stakeholders and presenting the draft Plan at up to six community events. EES members have extensive experience helping to develop web sites, providing collateral materials, and supporting public meetings and events to introduce the CCA business model. EES stands ready to provide additional services beyond the scope of this proposal to support the development of the CCA. The scope and costs of these additional services will be negotiated separately and will not be performed until the Partners have issued the appropriate authorization. The specific deliverables provided under this contract include the following:

a) Bi-weekly updates with assigned project staff;
b) Coordination with Partners to finalize load data request to SDG&E;
c) Finalize study scope, assumptions, and power supply scenarios;
d) Summary of communications with and vetting of study assumptions and finding by SDG&E and/or Sempra Services Corporation;
e) Draft Technical Study in Microsoft Word format, plus additional drafts as necessary;
f) Draft pro-forma model in Microsoft Excel format, plus additional drafts as necessary;
g) Responses to any reasonable third-party reviewer as directed by the Partners;
h) Final Technical Study and all relevant final documents and models;
i) Presentation of study findings and results to all Partner staff, Councils, advisory boards, and/or public meetings (up to six presentations);

j) Outreach to the public to support the study including assistance in preparing web content, fliers, social media blasts and press releases for each of the six public meetings.

10. Project Timeline

EES will complete a draft feasibility analysis within 90 days of the release of the electricity load data from SDG&E. EES will then solicit feedback and comments from the Partner's staff, implement those changes, and turn around a final report. The expected schedule is detailed in the following chart.

	Month (from start of contract)								
Milestone/Activity	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Notice to Proceed									
Submit Data Request to SDG&E									
SDG&E Fulfills Data Request									
Receive, Process, and Validate Data									
Task 1 Load Study Forecast									
Task 2 Rate Analysis and Comparison									
Task 3 Supply Scenario Analysis									
Task 4 Pro-Forma Analysis									
Task 5 Sensitivity Analysis									
Task 6 Regulatory and Risk Analysis									
Task 7 Governance, Management, and Funding									
Task 8 Economic Impacts									
Draft Feasibility Report									
Final Feasibility Report									
Presentation to CCA Partners									
Presentation to Public									

References/Previous Work

EES has previously prepared CCA Feasibility Analyses, Business Plans and Implementation Plans for the Counties of Los Angeles, Alameda, and Ventura, the San Bernardino Associated Governments, the Coachella Valley Association of Governments, Western Riverside Council of Governments, and the City of San José, and is currently preparing a CCA feasibility study for Butte County and the Cities of Encinitas, Carlsbad, Del Mar and Oceanside. EES has also provided CCA Feasibility Peer Review services for the City of Solana Beach and King City and is currently peer reviewing CCA feasibility studies for the City of San Diego. In addition, EES has recently been hired by Sustain OC to perform a CCA feasibility study for Orange County. Finally, EES is an ongoing participant in numerous CCA-related regulatory proceedings at the California Public Utility Commission (CPUC), including the recently concluded Power Charge Indifference Adjustment (PCIA) review proceeding (R.17-06-026). Reference contacts are provided below.

Customer Name/Address	Contact Person/Email/Phone	Date of Service
WRCOG/Western Clean Energy 3390 University Avenue, #450 Riverside, CA 92501	Barbara Spoonhour bspoonhour@wrcog.us (951) 405-6760	June 2016 – Present
City of Encinitas 505 S. Vulcan Avenue Encinitas, CA 92024	Crystal Najera cnajera@encinitasca.gov (760) 943-22285	February 2018 – Present
County of Butte 25 County Center Drive Oroville, CA 95965	Brian Ring bring@buttecounty.net (530) 552-3311	February 2018 – Present

1. Selected Other Municipal and County Clients

In addition to our previously listed CCA clients, EES also works with a wide range of California municipal and county governments, as well as publicly-owned utilities. A list of our clients can be found in Appendix B. The following is a selection from that client list:

- Anaheim Public Utilities, CA
- City of Corona, CA
- City of Glendale, CA
- City of Moreno Valley, CA
- City of Needles, CA
- City of Redding, CA
- City of Roseville, CA
- City of San Bernardino, CA
- City of San Marcos, CA
- City of Palo Alto, CA
- County of Butte, CA
- Siskiyou County, CA
- San Joaquin Irrigation District, CA
- Sacramento Municipal Utility District, CA
- Los Angeles Department of Water & Power, CA
- Silicon Valley Power, CA
- Imperial Irrigation District, CA
- City of Pasadena, CA
- City of Burbank, CA
- City of Irvine, CA
- City of Santa Ana, CA
- Del Norte County, CA
- City of Lodi, CA
- King City, CA
- Modoc County, CA
- Turlock Irrigation District, CA

Proposed Cost

EES's standard hourly billing rates are as follows:

President	$250
Senior Associate	245
Manager	240
Senior Project Manager	235
Project Manager	230
Senior Analyst/Engineer	225
Analyst/Engineer	220
Senior Administrative Assistant	170

Based on these hourly rates, EES can perform the work proposed for this study on a budget of $74,200. An itemized list of staff hours by task is provided on the following page. All necessary out-of-pocket expenses are included in this budget. The costs of receiving Partner load data from SDG&E are not included in this budget.

Task	Hours	Rate	Total Cost
1. Load Study and Forecast			
Zac Yanez, Project Manager	20	$230.00	$4,600.00
Task 1 Subtotal			*$4,600.00*
2. Supply Scenario Analysis			
Gary Saleba, President/CEO	2	$250.00	$500.00
Steve Andersen, Manager	20	$240.00	$4,800.00
Task 2 Subtotal			*$5,300.00*
3. Rate Analysis and Comparison			
Amber Nyquist, Manager	16	$240.00	$3,840.00
Zac Yanez, Project Manager	20	$230.00	$4,600.00
Task 3 Subtotal			*$8,440.00*
4. Pro-Forma Analysis			
Gary Saleba, President/CEO	4	$250.00	$1,000.00
Amber Nyquist, Manager	20	$240.00	$4,800.00
Zac Yanez, Project Manager	20	$230.00	$4,600.00
Task 4 Subtotal			*$10,400.00*

Task	Hours	Rate	Total Cost
5. Sensitivity Analysis			
Amber Nyquist, Manager	4	$240.00	$960.00
Steve Andersen, Manager	4	$240.00	$960.00
Zac Yanez, Project Manager	16	$230.00	$3,680.00
Task 5 Subtotal			*$5,600.00*
6. Regulatory and Risk Analysis			
Amber Nyquist, Manager	4	$240.00	$960.00
Zac Yanez, Project Manager	12	$230.00	$2,760.00
Task 6 Subtotal			*$3,720.00*
7. Governance, Management and Funding Models			
Amber Nyquist, Manager	4	$240.00	$960.00
Zac Yanez, Project Manager	8	$230.00	$1,840.00
Task 7 Subtotal			*$2,800.00*
8. Economic Impacts			
Amber Nyquist, Manager	8	$240.00	$1,920.00
Zac Yanez, Project Manager	4	$230.00	$920.00
Task 8 Subtotal			*$2,840.00*
9. Deliverables and Reports			
Gary Saleba, President/CEO	10	$250.00	$2,500.00
Gail Tabone, Senior Associate	4	$245.00	$980.00
Amber Nyquist, Manager	10	$240.00	$2,400.00
Zac Yanez, Project Manager	4	$230.00	$920.00
Howard Choy, Senior Associate	30	$150.00	$4,500.00
Subtotal Task 9			*$11,300.00*
Presentations, Other			
Gary Saleba, President/CEO	30	$250.00	$7,500.00
Amber Nyquist, Manager	30	$240.00	$7,200.00
Howard Choy, Senior Associate	30	$150.00	$4,500.00
Subtotal Presentation, Other			*$19,200.00*
GRAND TOTAL	**334**		**$74,200.00**

Conflicts of Interest

It should be noted that EES has no conflicts of interest in performing this requested CCA feasibility study. If selected to do this feasibility work, EES will never solicit follow-on work with the Partners in the areas of power procurement or data management. EES also has no existing umbrella CCA organization to ask the Partners to join. The only follow-on work EES would perform is work specifically requested by the Partners.

Appendix A – Resumes

GARY S. SALEBA
President/CEO

Gary Saleba is a principal and president/CEO of EES Consulting, Inc. His areas of specialty include overall quality control for EES Consulting's projects as well as development of corporate management, financial and strategic planning models. Mr. Saleba has extensive experience in the areas of utility rates, financial planning, management audits, professional development educational seminars, marketing, consumer research, forecasting, integrated resource planning, cost-benefit analyses, overall strategic planning, and mergers and acquisitions.

Having worked as a utility employee, Mr. Saleba combines an extensive background as both a utility industry expert and a management consultant. He is able to draw upon this professional and educational experience to manage projects including comprehensive water, wastewater, gas and electric cost of service studies, strategic planning, and management critiques for clients throughout North America. His experience extends to alternative fuel cost comparisons, econometric forecasting models, resource planning and reliability studies. Mr. Saleba has participated in numerous generic utility proceedings, testified before over 200 regulatory bodies and courts of law and coordinated over 500 financial planning, rate study, resource acquisition, and strategic planning studies.

Mr. Saleba has also served on numerous energy and natural resource-related trade associations. He has served as Chairman of the American Water Works Association Financial Management Committee and Management Division. He has also served on the board of directors for the Northwest Public Power Association. He also served on the Board of Directors for ENERconnect, Inc., a bulk power aggregation and procurement entity serving the municipal utilities in Ontario.

Through EES Consulting and as a utility employee, Mr. Saleba has provided expert testimony in a number of subject areas including:

- Cost of Service
- Wholesale and Retail Rate Design
- Avoided Cost of Power
- General Utility Financing Guidelines
- Load Forecasting/Retail Wheeling
- Automatic Adjustment Clauses
- Supply Contracts/Negotiations
- Interclass Load Characteristics
- Resource Acquisitions
- Integrated Resource Planning
- Efficient Utility Operations
- Construction Contract Analysis
- Return on Equity
- Mergers and Acquisitions

EDUCATION

M.B.A., Finance, Butler University, Indianapolis, Indiana
B.A., Economics and Mathematics, Franklin College, Franklin, Indiana

PROFESSIONAL ASSOCIATIONS

American Water Works Association, American Public Power Association
Northwest Public Power Association, Canadian Energy Association,
California Municipal Utilities Association

EES Consulting

GAIL D. TABONE
Senior Associate

Ms. Tabone has managed projects concerning regulatory proceedings, mergers, new utility formation, power supply planning, load aggregation and cost of service and rate analyses.

On the regulatory front, Ms. Tabone has prepared evidence or appeared as an expert witness in several proceedings before public regulatory bodies in the U.S. and Canada. She has been active in preparing and intervening in electric and natural gas rate proceedings, wholesale transmission access and rates, as well as approval for mergers and/or new utility formation.

Ms. Tabone participated in various aspects of changing utility regulation, from early deregulation in Alberta, pooling of transmission costs in Texas, and formation of CCAs in California. She has been involved in strategic planning and regulatory intervention for existing utilities facing changes in the industry structure and reviewing the feasibility of forming new utilities under CCA regulation in California.

Ms. Tabone's experience includes power supply management and has been actively involved in resource planning, evaluating resource proposals and negotiating contracts for numerous utilities. This work involves load forecasting, optimization of resource and contract options, procurement and negotiations for power supply, power supply cost estimation, negotiating transmission contracts, auditing of scheduling and dispatching services, rate design and devising customer choice programs.

Ms. Tabone is both skilled and experienced at determining the needs of the client in the changing utility environment. She is able to develop unique approaches to the analysis of issues facing the client. While her primary focus is economic, she is capable of addressing non-economic issues along with her economic analysis. She has a thorough knowledge of the technical issues related to planning and feasibility analysis.

EDUCATION

M.S., Agricultural and Applied Economics, University of Minnesota
B.S., Economics, University of Minnesota

PROFESSIONAL ASSOCIATIONS

American Water Works Association, Northwest Public Power Association, California Municipal Utilities Association

STEVEN J. ANDERSEN
Manager of Project Evaluations

Steve Andersen, whose broad knowledge of the engineering field enables him to handle most technical issues, provides economic and technical analyses for utility and industrial clients of EES Consulting, Inc.

Mr. Andersen is skilled in evaluating power supply proposals and has done so for many utilities in the region. He has calculated the potential savings in total power supply costs offered by competing suppliers. With his background in power engineering, he is able to assess the technical barriers to potential savings in today's changing electric industry.

Mr. Andersen has been responsible for managing the interplay of multiple power supply contracts for a major Northwest utility. He has monitored the hourly loads and power schedules of the utility and recommended changes to optimize economically the utility's various resources. He has also negotiated and implemented short and long-term power supply and transmission contracts on behalf of the utility.

Mr. Andersen has performed integrated resources plans for both large and small utilities. He has also performed resource feasibility studies for both utility and industrial clients.

Mr. Andersen has performed cost of service analyses for many utilities. This analysis includes developing rates for residential, commercial and large industrial customer classes. He has also audited the power supply costs of large industrial corporations and suggested options for reducing their overall costs.

Mr. Andersen, has experience scheduling output from hydroelectric and thermal projects based on inflow information, flood control restrictions, maintenance outages, economic displacement and native load requirements. He has experience monitoring gas and electric markets and recommending purchases based on potential savings in total power supply costs. He is familiar with the functionality of hourly, daily, monthly and long-term energy markets.

Mr. Andersen has experience working with BPA power and transmission contracts and rates. This experience runs the gamut from participating in rate case activities to auditing power and transmission invoices.

EDUCATION

B.S., Electrical Engineering, University of Washington

EES Consulting

AMBER NYQUIST
Manager, Economic Evaluations

Amber Nyquist provides analytical expertise for EES in support of economic and financial studies. Ms. Nyquist offers experience and knowledge to a wide range of topics related to regulated utilities. Ms. Nyquist's background includes cost of service analysis, electric rate design, Bonneville Power Administration's tiered rate methodology and other power supply costs or related information. Ms. Nyquist assists in Integrated Resource Planning as well as independent resource evaluation. Specific resources include demand-side and conservation resources, geothermal, wind, renewable energy credits, gas-fired and other resources.

Besides resource planning, she uses her background in econometrics and data analysis to develop load forecasts, normalize electric loads according to weather, and to develop market price forecasts. Also using her statistics knowledge Ms. Nyquist conducts conservation program evaluations and provides utilities with statistically significant results. The results assist in utility program planning, data collection, and presentation.

Furthermore, Ms. Nyquist has specific experience with the federal standards for evaluating benefits and costs of water supply and related resources according to the *Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies* (March 10, 1983).

In addition to her background in economics, Ms. Nyquist is also trained in written communication skills. She has four years experience in teaching others to write as well as abundant experience in written and oral presentations.

EDUCATION

M.A., Economics, Simon Fraser University
B.A., Economics, Western Washington University

ZAC YANEZ
Project Manager

Mr. Yanez brings 17 years of experience and a strong utility, economic, and engineering background to EES.

Mr. Yanez leverages strong analytical expertise to support financial studies and regulatory research with EES. Prior to joining EES, Mr. Yanez held several positions within the utility industry with at both a public utility and an investor owned utility. His background spans operations, regulatory policy analysis and support, resource acquisition, resource evaluation, conservation planning, resource portfolio planning and optimization, as well as economic and financial analysis. His varied background provides a unique perspective and a wholistic understanding of utility issues.

EDUCATION

B.A., Finance, University of Texas at Austin

TED LIGHT
Project Manager

Ted Light is a Project Manager with a specialty in energy efficiency and demand-side management. He brings nearly nine years of experience to EES, having worked previously for the Energy Trust of Oregon, the non-profit energy efficiency and renewable energy program administrator for Oregon's investor-owned utilities. He has expertise and knowledge on a broad array of energy efficiency program management and planning topics including: conservation/DSM potential assessments, conservation program planning, program data analysis, and cost-benefit analyses.

While working for the Energy Trust, Mr. Light managed the development of a new conservation potential assessment model that included an innovative approach to forecasting savings from emerging energy efficient technologies. That model was used to develop energy savings forecasts in over half a dozen electric and natural gas utility IRP processes.

Mr. Light also developed new tools to calculate avoided costs and benefit-cost ratios for energy efficiency programs and measures, greatly improving Energy Trust's reporting capability. Those tools incorporated new load shapes developed by the Northwest Power and Conservation Council for the 7th Power Plan and enabled the calculation of utility specific peak demand reductions for both electric and natural gas measures.

In addition to his conservation planning work, Mr. Light also managed Energy Trust's small industrial, agricultural, and industrial lighting programs. He provided technical review for Strategic Energy Management program participants in the commercial sector and advised the residential program on a behavior program. With the development of new measures that offer both efficiency and demand response capabilities, Mr. Light helped Energy Trust consider the combined benefits of these technologies. He also served on the Northwest Energy Efficiency Alliance's Cost Effectiveness Advisory Committee.

Earlier in his career, Mr. Light taught high school math and science on the Rosebud Reservation in South Dakota through Teach For America.

EDUCATION

B.S., Aeronautical & Aerospace Engineering, Purdue University

CERTIFICATIONS

Certified Energy Manager (CEM), Association of Energy Engineers (#14608)

KYLE MORRILL
Senior Analyst

Kyle Morrill provides analytical expertise for EES in support of economic and financial studies. Mr. Morrill offers experience and knowledge to a wide range of topics related to regulated utilities. Mr. Morrill's background includes economic analysis, econometric forecasting, municipal solid waste policy and demand-side management analysis.

In addition to his background in economics, Mr. Morrill is also trained in data management and research. He has lead data management and collection for research institutions and local government assisting in policy and demographic analysis.

EDUCATION

M.A., Economics, University of Colorado Denver
B.S., Economics, University of Puget Sound

RUSSELL W. SCHNEIDER
Senior Financial Analyst

Mr. Schneider is a Senior Financial Analyst with expertise in financial planning, power supply, transmission, strategic planning, resource development, forecasting, risk analysis, smart grid, meter data management, and rate design. Mr. Schneider will focus on cost of service studies, rate design, integrated resource planning, resource development and assessment, power supply and transmission policy.

Mr. Schneider brings 15 years of experience and a strong economic, engineering, and technology background. Mr. Schneider has utility experience completing load research, rate design, cost of service, automated meter reading cost-benefit, power requirement, load forecast, conservation potential, and other financial studies. Mr. Schneider regularly presented at trustee meetings on forecasting, risk, reliability, power supply and transmission issues for many years.

Mr. Schneider has also been actively involved in the areas of Bonneville Power Administration rates, smart grid, demand response, energy efficiency, Columbia River power system environmental mitigation, hydropower advocacy, and state-level legislative issues. Mr. Schneider has experience within the West Coast public power community, including the Northwest Power Council advisory groups, the Pacific Northwest Coordinating Council system planning committee, Bonneville network transmission focus group and has presented at conferences such as Smart Grid Live and the Energy Efficiency Exchange.

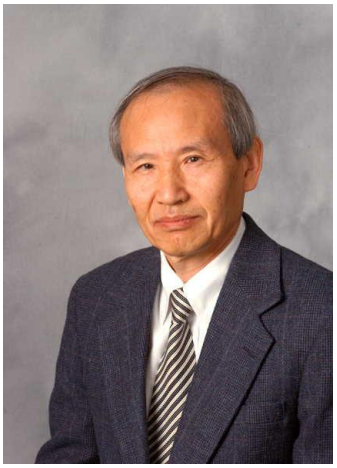
Mr. Schneider has a track record of actively participating and working cooperatively with the Western Electric Coordinating Council, Western Renewable Generator Information System, National Electric Reliability Corporation, National Rural Electric Cooperative Association, Public Power Council, Northwest Requirements Utilities, Pacific Northwest Generating Cooperative, Pacific Northwest Utility Coordinating Council, and Northwest Council technical staff on all aspects of power supply, compliance and reliability policy issues.

Mr. Schneider also served as project manager and supervisor for utility participation in the Pacific Northwest Smart Grid Demonstration Project involving automated demand response, smart appliances and home energy networks. Mr. Schneider led efforts to automate meter data analysis and reporting functions, including developing business intelligence structured reports.

EDUCATION

Master of Engineering Technology Management, Washington State University
Bachelor of Economics, Reed College, Portland, Oregon

EES Consulting



SEUNG KIM, P.E.
Senior Electrical Engineer

Seung Kim is responsible for consultation and design of electrical, power, and control projects for the Power Services Group of EES Consulting, Inc. He has extensive experience in the feasibility study, design, and construction supports of facilities for generation, transmission and distribution, supervisory control and data acquisition, and communications.

Mr. Kim's engineering skills reflect his 30 years working in design, planning, estimating, and construction management of power and control projects. His experience includes design and specification of electrical systems, shop drawing reviews, field inspections, contract administration, factory acceptance and field testing of control and substation equipment. Specific equipment experience includes: generators, power transformers, circuit breakers, protective relays, SCADA systems, motor controls, sensors and transducers, PLCs, and related control elements.

In addition to power and control system design and construction support, Mr. Kim participated as lead electrical engineer in hydroelectric facility engineering audits, inspections, and relicensing. These projects included Chelan and Rocky Reach Hydroelectric Projects, Box Canyon, and Upper American River Project. Mr. Kim has provided conceptual, alternative, and detailed design and construction supports for a large-scale juvenile fish bypass system for pump controls, power supply, instrumentation and control, and communication systems, integrating multitudes of new and existing control systems.

Mr. Kim's diverse background and experience allows him to provide wide-ranging unbiased consultation and design supports for the client's electrical and control system needs. He is a member of IEEE.

EDUCATION

BSEE – Seoul National University, University of Washington
MSEE - University of Washington

PROFESSIONAL REGISTRATIONS

Professional Electrical Engineer, 1976
Washington, Alaska, North Carolina, Ohio, Oklahoma, Guam, California and British Columbia
Member of the Appraisal Institute

SCOTT E. MAHNKEN, P.E.
Civil Engineering Consultant

Mr. Mahnken is a senior civil engineer. He first began working on hydroelectric projects in 1981. With 35 years of experience, he has worked on more than 40 hydroelectric projects; his involvement has included every phase of project development, from reconnaissance and planning, to final design and construction inspection. He has experience designing dams, spillways, intake structures, steel pipelines and penstocks, and powerhouses. Mr. Mahnken manages small and large projects for his clients. His professional services typically involve engineering evaluations, site studies, geometry layout, calculations, budget estimates, plans and technical specifications preparation, and construction assistance.

Mr. Mahnken serves as a FERC-approved independent consultant responsible for safety reviews (Part 12 inspections) of hydroelectric projects. He has performed stability analyses for concrete gravity dams ranging from 16 feet to 180 feet high, and has recently evaluated seismic loading conditions for two dams using Chopra's pseudo-dynamic method as prescribed by FERC in their current guidelines (October 2002).

Mr. Mahnken's engineering experience also includes fish passage projects, access roads and bridges, tunnels, cofferdams, erosion protection, and regulatory permitting.

Some of Mr. Mahnken's major accomplishments are:

- Young's Creek Hydroelectric Project
- Calligan Creek and Hancock Creek Hydroelectric Projects
- Olokele Hydroelectric Project
- Eldorado Hydroelectric Project
- Choloma Hydroelectric Project
- Sullivan Lake Dam Rehabilitation
- King Cove Hydroelectric Project
- White River Fish Bypass Pipeline
- Pigeon Creek Fish Passage Culvert (10-ft-dia. Steel plate tunnel liner)
- Spillway Repairs for Beardsley Dam
- Power Lake Dam Raise and Spillway Modifications
- Combie Dam Erosion Protection
- Faraday Dam Structural Modifications (for stability)
- Box Canyon Spillway Repair
- Penstock Replacement for Calispell Hydroelectric Project

EDUCATION

B.S., Civil Engineering, Colorado State University, 1979

REGISTRATIONS AND PROFESSIONAL AFFILIATIONS

Professional Civil Engineer: Colorado 1984; Hawaii 1984; Washington 1986; Alaska 1995; California 1996; British Columbia 2003; Nevada 2004; Oregon 2011

American Society of Civil Engineers

EES Consulting

MAX WALENCIAK, P.E.
Senior Associate

Max Walenciak is a registered professional engineer with over 40 years of extensive and diverse project management experience in developing, constructing and operating power plants. His technical and management experience includes geothermal power plants, gas-fired combustion turbine projects, solar power plants and cogeneration plants. His experience includes large frame combustion turbines, aero derivative gas turbines, steam turbines and reciprocating engineers.

Mr. Walenciak recently managed the US operations for a geothermal development company which included operations of a 50MW geothermal plant in California. He was responsible for the permitting, engineering, procurement and construction of the plant, wellfield and a 20-mile-high voltage transmission line.

He was the owners engineer for a public utility in the development and construction of a 97MW peaking plant using 2 LM6000 gas turbines located near Fresno, California. As a consultant to the US Navy he prepared a proposal to an Icelandic utility for costs associated with a base closing that resulting in a $40M savings in the settlement cost.

Mr. Walenciak managed the engineering and development activities for an independent power producer in Phoenix, Arizona. This included the design, permitting support, negotiation of joint development agreements and selection of an engineering, procurement and construction contractor for a proposed 2000 MW gas-fired power project.

Mr. Walenciak was the manager of a state-of-the-art combined cycle combustion turbine plant. He oversaw the day-to-day operations, planning of plant outages, coordination of permit compliance, budget development and coordination of the gas and electric scheduling. He negotiated contracts for operations and the Long-Term Service Agreement (LTSA). He was a member of the steering committee for the GE Frame 7 Gas Turbine Owner's group.

Mr. Walenciak was also the on-site Construction Representative for Clark Public Utilities River Road Power Plant. He was Clark's owner agent during the engineering, design and procurement phase of this project. In these roles, he monitored the construction and EPC contractors, approved design changes and coordinated activities of other contractors on the project. He was a key participant in the planning and negotiations of all project contracts.

EDUCATION

Registered Professional Engineer, California
B.S., San Jose State University, Mechanical Engineering

PROFESSIONAL ASSOCIATIONS

American Society of Mechanical Engineers
Geothermal Resource Council

BILL DEARING, P.E.
Senior Associate

Bill Dearing has been a consultant for Northwest Public Power Association on NERC, WECC, and Peak Reliability issues, represented Grant PUD on the WECC Board of Directors, consulted for Grant on energy imbalance market issues, Canadian Treaty renewal/ termination studies, transmission contracts, WECC, NERC and FERC issues, facilitated the Central Washington Power Agency effort on behalf of 16 public utilities to investigate development and pooling of resources and transmission assets, Public Power Council providing technical assistance on wind integration and related capacity and hydro operations issues.

Bill also directed and managed the Power Management division functions at Grant PUD which included wholesale power purchases, sales and contracts for Grant's 2,000 MW hydro system, transmission contract negotiation and management, analyzing new or incremental generation additions, contract negotiation, implementation and management, long and short term power planning, system dispatch, plant and dispatch control systems, efficient operation of Grant's production system, safe and efficient operation of the transmission and distribution system. Worked to prepare for mandatory reliability standards at the system control center and hydro plants, and on physical security at Grant facilities. Bill retired from Grant in June 2007, and worked as a consultant for Grant until returning as a part-time Project Specialist in March 2010 through October 2012 working on compliance, transmission contracts, Canadian Treaty renewal and studies, energy imbalance markets, and WECC issues.

Bill also managed Chelan PUD's Power Management division and served on the District's senior management team and represented the District on power contract negotiations and on various regional and west-wide organizations relating to power marketing, system operations, and system reliability of Chelan' s 1,500 MW hydro system. Earlier in his career, he also worked on the plant control systems at the Rocky Reach and Rock Island hydro projects, and updating the Automatic Generation Control system and software at Chelan's System Control Center.

Experience in various positions at Chelan in Power Operations/Power Management included:

- ✓ plant control systems
- ✓ automatic generation control systems (AGC)
- ✓ energy transaction accounting
- ✓ contract negotiation and implementation
- ✓ power plant operational modeling
- ✓ power systems operations and dispatch
- ✓ water forecasting for hydro operations
- ✓ supervision of power scheduling
- ✓ power planning
- ✓ load forecasting

EDUCATION

B.S., Electrical Engineering (Power Option), Washington State University

PROFESSIONAL ASSOCIATIONS

Registered Professional Electrical Engineer, State of Washington
Senior Member, Institute of Electrical and Electronics Engineers

MIKE GREEN
Senior Associate

Through his work as a long-term utility employee and consultant, Mr. Green has gained substantial experience and expertise in many aspects of the electric power industry. Areas of experience and expertise include: power contract development, negotiation and management; DSM program evaluation, implementation and management; cost of service and tariff design [electric power retail and wholesale service, water and wastewater], design of ancillary charges for high voltage service; power operations activities [scheduling, E-tag implementation, tracking of wholesale power sales and purchases, hourly control area system operations].

Early in his career, Mr. Green developed rate standards and programs as required by the National Energy Act. He represented Chelan County PUD in the development of DSM regional programs and he was responsible for their implementation. Under the requirements of the National Energy Act, Mr. Green developed small power interconnection standards. Mr. Green developed a long-term financial plan which was used for many years to evaluate DSM programs, support cost of service activities, and evaluate power supply options.

While serving in a utility's power operations group, Mr. Green refined the Visual Basic based user interface used by the control center operators. During this time, he participated in a variety of forums on industry restructuring and activities to structure WECC and NERC into their current design.

After retirement as a utility employee, Mr. Green has acted as consultant to help utilities meet their requirements relating to the NERC reliability standards. He was intimately involved in the BES definition and drafting of the NERC Exceptions Process. Mr. Green drafted a comprehensive appeals document and successfully forged an effort resulting in the release of many entities from having to implement the NERC reliability standards.

Mr. Green continues to monitor the NERC activities to be sensitive of issues that may affect electric power entities.

EDUCATION

B.S., Electrical Engineering, University of Washington,
MBA, University of Washington

HOWARD CHOY, P.E.
Senior Associate

Howard Choy has spent over 30 years in the energy industry which included: development and administration of Los Angeles County's Office of Sustainability, private sector consulting services for utilities and utility customers, and engineering and management of projects for the Los Angeles Department of Water & Power.

Howard's areas of expertise include:

- Community Choice Aggregation (CCA) program assessment, development, implementation and operations.
- Corporate and agency energy program development and administration; including – utilities accounting, clean energy programs, energy projects, utility partnerships, financing and funding, and community partnerships.
- California Public Utility Commission (CPUC), California Energy Commission (CEC) programs, and California legislature energy programs, policies, and proceedings.

Howard created the County Office of Sustainability (COS) within the Internal Services Department and led COS' activities under a $250 million annual budget. COS included the County's internal Energy Management organization and the County's community-facing energy programs. Major responsibilities included:

- Management of the County's $200 million internal energy budget (electricity, natural gas, water and cogeneration and central heating and cooling plants).
- Implementation of hundreds of energy efficiency, renewable energy, and water efficiency projects in County facilities.
- Development of a County-wide energy management system for tracking and analyzing bills, meter data, and energy consumption patterns.
- Development of the County's CCA feasibility study and business plan; and Board authorization to proceed with a County-wide CCA program.
- Development and administration of the SoCalREN, a CPUC-funded, independently administered energy efficiency program using investor-owned utility ratepayer energy efficiency funds.
- Development and administration of the County Property Assessed Clean Energy (PACE) program which finances residential and non-residential energy upgrades; the County's PACE program exceeded $1 billion in projects approved in one year.

EDUCATION

Bachelor of Science, Mechanical Engineering, University of California at Berkeley
Registered Professional Engineer and Certified Energy Manager, California

PROFESSIONAL ASSOCIATIONS

Past Board Chair, Local Government Sustainable Energy Coalition
Past Administrator, Southern California Regional Energy Network

Appendix B – Partial Client List

EES CONSULTING, INC.

PARTIAL CLIENT LIST

Alameda County, California
- Community Choice Aggregation Peer Review
- Power supply planning

Alaska Power & Telephone, Alaska
- Cost of service and rate design
- Expert testimony/report

Alaska Village Electric Cooperative, Alaska
- Due diligence and valuation of utility property acquisition
- Fuel transportation feasibility
- Power supply planning

University of Alberta, Canada
- Electricity and natural gas rates, generation supply options and procurement
- Expert testimony
- Cogeneration feasibility
- Water and wastewater rate analysis
- Asset sale/acquisition analysis

Association of Major Power Companies, Ontario
- Retail rate analysis
- Wheeling rate analysis
- Expert testimony

American Public Power Association (APPA)
- Instruct APPA cost of service, rate design, load forecasting and financial management seminars
- Authored APPA technical manual on cost of service

American Water Works Association (AWWA)
- Instruct AWWA cost of service, rate design, forecasting and financial management seminars
- Develop AWWA technical manuals
- Chair of Management Division, Total Water Management and Financial Management Committees

City of Anaheim, California
- Electric rate study assistance
- Advice on strategic partnering
- Stranded cost analysis
- Cogeneration analysis
- Property tax analysis

Municipality of Anchorage, Light & Power, Alaska
- Engineer of Record
- Unbundled cost of service
- Competitiveness analysis
- Strategic advice and assistance
- Deregulation consulting
- Regulatory/legal support
- Organizational audits
- Schedule/dispatch department support
- Integrated resource plans
- Generation planning study
- Property acquisition assistance
- Joint generation feasibility study
- Merger and acquisition analysis
- Load forecast
- Production costing analysis

Anyox Hydroelectric Corp, Canada
- Design of 4 new hydroelectric projects
- Canadian water licensing and permits
- Power sales contract assistance
- Financing support and modeling

Avista, Washington
- Water quality program support
- Spokane River FERC relicensing analyses and negotiations /litigation
- Strategic planning

Basin City Water/Sewer District, Washington
- Valuation study

Benton County Public Utility District, Washington
- Integrated resource plan
- Conservation potential assessment

EES Consulting

Beartooth Electric Cooperative, Montana
- Cost of service study
- Generation option study
- Valuation study
- Strategic planning
- Merger and acquisition analysis
- Load forecast

Benton County REA, Washington
- Strategic planning retreat
- Evaluation of alternative power supply options and contract negotiations
- Wheeling rate analysis
- Asset acquisition study
- Cost allocation and retail rate design
- Permitting/feasibility for gas generation

Big Bend Electric Cooperative, Washington
- Electric cost of service rate study

Big Flat Electric Cooperative, Montana
- Wheeling rate development
- Natural gas pipeline feasibility study

Blachly-Lane Electric Cooperative, Oregon
- Cost of service study/rate design
- Capital credits allocation study

City of Bonners Ferry, Idaho
- Water cost of service study
- Electric cost of service study
- Large customer rate setting analysis and expert testimony
- Hydro generation feasibility study

Burbank Water & Power, California
- Transformer Temperature Control Installation

Butte County, California
- Community choice aggregation
- Power supply planning

Central Electric Cooperative, Oregon
- Retail rate study

Central Lincoln PUD, Oregon
- Electric retail rate study
- Wheeling rate

Circle Telephone, Alaska
- Appraisal/merger and acquisition support

City of Birmingham, Alabama
- Comprehensive water cost allocation and rate design study
- Litigation support/expert testimony

City of Boulder City, Nevada
- Electric, water, wastewater cost of service study

City of Burien, Washington
- Electric conversion financial analysis

County of Butte, California
- Preparing Community Choice Aggregation (CCA) business plan

British Columbia Utilities Commission, Canada
- Evaluation of natural gas rate application

Building Owners Management Association
- Expert testimony in Puget Sound Energy rate case on interclass cost allocations

California Municipal Utilities Association
- Evaluation of joining California ISO for California municipal electric utilities
- Educational services

City of Calgary, Alberta
- Water and sewer cost of service and rate analyses

CH2M Hill, Washington
- Fish passage facility design
- Mechanical engineering/design
- Electrical engineering
- Control system design

Chelan County Public Utility District, Washington

- Conservation potential assessment
- Engineering assistance/substation design
- Implementation of time differentiated, average embedded and marginal cost of service software programs
- Load research program assistance
- Econometric demand forecasting models
- New large load analysis
- Conservation and transformer load management analysis
- Water/sewer service regulation critique and rate studies
- Diesel generation feasibility study
- DSM potential study
- Juvenile fish bypass engineering
- Fiber system benefit/cost analysis
- Load forecasting

City of Cheney, Washington

- Electric cost of service/rate design study
- Strategic options study for electric utility

Clackamas River Water District, Oregon

- Utility coordination with Damascus, Mt. Scott and Oak Lodge water districts
- Strategic planning
- Merger study

Clallam County Public Utility District, Washington

- Conservation potential assessment
- Water cost of service study
- Retail cost of service and rate design studies
- Review and calculation of wheeling tariffs
- Resource evaluation
- Representation in regional power planning issues
- Integrated resource plan
- Evaluation of bulk power alternatives/BPA support
- Load forecast

Clark Public Utilities, Washington

- Conservation potential assessment
- Hydro feasibility study
- Electric integrated resource planning study
- Engineer's letters for bond financings
- DSM evaluation/CPA evaluation
- Owner's agent for construction of 248 MW gas turbine project
- Retail wheeling analysis
- Natural gas procurement
- Customer choice program
- Assistance in construction of gas engine project
- Renewable resource evaluation
- Risk management evaluation
- Load forecasting

Clearwater Power Company, Idaho

- Line extension policy analysis
- Retail rate study

Coachella Valley Association of Governments, California

- Consumer Choice Aggregation (CCA) formation study
- Evaluation of electric utility options/new utility
- Property valuation for condemnation evaluation
- Expert testimony
- Power supply planning

Columbia River PUD, Oregon

- Retail rate study

Columbia REA, Washington

- Electric retail rate study
- New large customer load analysis

City of Corona, California

- Strategic advice
- Valuation assessments
- Condemnation evaluation/expert testimony

Consumers Power, Inc., Oregon
- Electric rate assistance

Costco Companies, Inc., Washington
- Power supply evaluation
- Electric deregulation strategy

Cowlitz County PUD, Washington
- Expert testimony on Wells #2 hydro failure
- Power supply evaluation
- Conservation potential assessment

Denver Water Board, Colorado
- Water rate study assistance
- Strategic planning
- Litigation support
- Expert testimony

District of Lake Country, B.C., Canada
- Turbine and generator procurement for hydroelectric project

Douglas County PUD, Washington
- Wells Dam FERC relicensing support and negotiations
- Tribal negotiation
- Negotiation of 10(e) payments
- Water quality/temperature modeling/dissolved gas investigations

Douglas Electric Cooperative, Oregon
- Electric retail rate study

Energy Facility Site Evaluation Council (EFSEC)
- Assess financial prudency of purchasing combustion turbine project

Electricity Distributors Association, Ontario
- Retail cost of service/rate design studies
- Evaluation of load management options
- Evaluation of provincial resource acquisition study
- Expert testimony
- DSM evaluation
- Merger and acquisition analysis/support
- Power pooling acquisition study and business plan

Electricity Distributors Association (cont'd)
- Integrated resource planning study assistance
- Strategic planning
- Customer choice analysis
- Evaluation of ISO for Ontario
- Educational services
- Energy trading operations
- Unbundled cost of service model

City of Ellensburg, Washington
- Power supply/Tier 2 options
- Rate studies, financial analysis, management review, load management
- Integrated resource plan
- Gas utility acquisition analysis
- Evaluation of bulk power alternatives
- Power contract negotiations
- Litigation support/expert testimony
- Resource evaluation
- Load forecast

El Dorado Irrigation District, California
- Water and wastewater financial planning and rate studies
- Customer service manual
- Contract negotiations

Elmhurst Mutual Power and Light, Washington
- General engineering/substation design
- Distribution protection study
- Rate study

Emerald Public Utility District, Oregon
- Expert testimony for condemnation proceedings
- Power resource evaluations
- Cost of service and rate design studies
- Contract negotiations
- Asset acquisition analysis
- Conservation program review
- Strategic planning

ENERconnect, Inc., Ontario
- Established wholesale power trading protocol for Ontario
- Consulted on various technical and financial requirements
- Elected to Board of Directors from 1999 – 2001

Energy Northwest, Washington
- Packwood hydro relicensing support
- Evaluation of Columbia Generation Station
- Fisheries and water quality studies
- Instream flow determination
- Habitat enhancement and restoration
- Threatened and endangered species
- Fisheries investigations, including netting, hydroacoustics, population assessments, and entrainment and impingement
- REC analysis/forecast
- Strategic planning
- Production costing analysis
- Power resource feasibility study

Enmax, Canada
- Wheeling rate regulatory support/expert testimony

Fall River Rural Electric Cooperative, Idaho
- Propane purchase evaluation
- Merger analysis, and operations and management review
- Asset acquisition evaluation
- Retail rate study
- Power resource evaluation model
- Gas distribution system feasibility study

City of Fargo, North Dakota
- Wastewater cost of service study
- Water cost of service study
- Long-term financial plan

Ferry County Public Utility District, Washington
- Contract negotiations
- Electric rate study

Flathead Electric Cooperative, Montana
- Merger and acquisition evaluation
- Regulatory compliance
- Unbundled cost of service
- Strategic advice
- Lead consultant for 40,000 electric meter acquisition from neighboring investor-owned utility
- Due diligence on coal plant
- Load forecast

Franklin County PUD, Washington
- Conservation potential assessment

FortisBC, Canada
- Power supply capital planning
- Rate design application for electric and gas utilities
- Main extension analysis
- Power contract negotiations
- Regulatory expert testimony
- Electric industry restructuring analysis
- Electric cost of service and rate design study
- Line extension policy
- Resource acquisition study
- Wholesale power sales contract negotiation
- Integrated resource planning study
- Power supply dispatch optimization study
- Competitiveness study
- Retail wheeling application
- Owner's regulatory expert for construction of major 230 kV transmission line
- Conservation potential analysis
- Load forecast

Garrison Diversion Conservancy District, North Dakota
- Analyze the financial/rate impacts of the proposed Red River Valley water supply/200 mile-8' water supply project
- Critique of project benefit/cost calculations
- General financial analysis support
- Load forecast

Glacier Electric Cooperative, Montana
- Standby rate analysis
- Power supply acquisition study
- Cost of service study

City of Glendale, California
- Electric cost of service study

Golden Valley Electric Cooperative, Alaska
- Strategic planning
- Power supply planning advice

Grant County PUD, Washington
- Conservation potential assessment

Grant County Industrial Customers, Washington
- Retail rate review
- Power contract negotiations

Grays Harbor County Public Utility District, Washington
- Conservation potential assessment
- Cost of service and retail rate study
- Bulk power sales forecast and contract negotiations
- Integrated resource plan
- Regional power issues
- Power resource evaluation
- Cogeneration feasibility
- Transmission analysis

Green Island Energy, Ltd.
- Biomass power project development assistance

Hampton Affiliates, Washington
- Provided assistance in energy related matters
- Assistance in construction of wood-fired boiler and back pressure turbine projects
- Negotiation of power purchase and wheeling agreement

HDR Engineering, Washington
- Hydro feasibility and power marketing services
- Transmission line feasibility

Hermiston Energy Services, Oregon
- Cost of service study

City of Heyburn, Idaho
- Expert testimony and litigation support
- Utility asset sale evaluation

Hidroelectrica Secacao, Guatemala
- Hydropower turbines and generators procurement
- Dam design
- Construction management
- Plant automation and controls

City of Idaho Falls, Idaho
- Update COSA model

Imperial Irrigation District, California
- Geothermal update analysis
- Salton Sea revenue analysis

Inland Choice Power, California
- Community choice aggregation business plan for CVAG, SANBAG and WRCOG
- Power supply options evaluation

Industrial Customers of Idaho Power, Idaho
- Expert testimony and analysis of Idaho Power rate increase applications
- Customer choice negotiations

Inland Power & Light Company, Washington
- Conservation potential assessment
- Cost of service and rate design
- EPAct 2005 time of use analysis
- Integrated resource plan
- Wheeling rate analysis

International Forest Products, Washington
- Wood-fired power plant feasibility studies
- Steam cycle heat balances

Iron Mountain Quarry, Washington
- Advice on new electric generation project

City of Irvine, California
- Greenfield municipalization feasibility study

Jefferson County PUD, Washington
- Cost of service and rate design studies
- Strategic planning
- Capital plan critique

Kentucky-American Water Company, Kentucky
- Conservation evaluation and program development
- Water demand forecast
- Integrated resource planning study
- Strategic planning
- Expert testimony/regulatory assistance
- Meter cost analysis

King City, California
- Peer review of CCA feasibility study

Kittitas County PUD #1, Washington
- General engineering
- 20-year system plan
- Irrigation and new large single load rate analysis

Klamath Water Users Association, Oregon
- Retail rate analysis
- Strategic electric options
- Power supply planning analysis

Klickitat County Public Utility District, Washington
- Rate study
- Financial planning
- Integrated resource planning study
- Water system technical assistance/review
- Evaluation of hydro project
- IPP wheeling rate negotiations
- Pump storage project evaluation

Kootenai Electric Cooperative, Idaho
- Electric rate study
- Business acquisition analysis
- Asset acquisition support
- Merger/acquisition assistance
- Cogeneration feasibility study
- Integrated resource plan
- Large customer negotiations/litigation support

City of Lake Forest Park, Washington
- Water and sewer rate study
- Strategic planning

Lakeview Light and Power, Washington
- Cost of service and rate design
- Pole attachment rates and contracts
- Windmill power evaluation
- Engineer's letter for bond financing
- Load forecast

Lassen Municipal Utility District, California
- Electric cost of service and rate design

Lewis County Public Utility District, Washington
- Conservation potential assessment
- Cost of service and rate design
- Fixed asset ledger development
- Power resource acquisition analysis
- Integrated resource plan
- Major hydro generation evaluation and assessment
- Regional power issues and contract negotiations
- Asset acquisition analysis

City of Lethbridge, Alberta
- Wholesale power negotiations/expert testimony
- Analysis of electric industry restructuring
- Cost of service/rate design studies
- Strategic advice on deregulation and existing retail business
- Strategic partnership advice
- Power supply option study
- Load forecast

Lincoln Electric Cooperative, Montana
- Cost of service and rate design study

Lodi, City of, California
- Rate study

Los Angeles County, California
- Consumer Choice Aggregation (CCA) formation
- Strategic advice on power supply and wheeling options for owned generation
- Rate analysis and negotiations
- Litigation support
- Franchise agreement assistance
- Cogeneration feasibility study
- Analysis of wheeling options
- ISO negotiations
- Transmission access evaluations
- Expert testimony at FERC on ISO transmission issues

Los Angeles Department of Water & Power, California
- Prepared testimony on behalf of LADWP in PGE rate case

Lower Valley Energy, Wyoming
- Evaluation of merger options
- Natural gas pipeline and gas turbine generation financial and technical feasibility
- Integrated resource plan
- Contract negotiation
- Evaluation of LNG distribution systems
- DSM program development
- Expert testimony and regulatory support
- Fuel cell feasibility
- Load forecast

Mason County Public Utility District No. 1, Washington
- Electric rate study
- Power supply resource evaluation
- Contract negotiations
- Hydro feasibility studies

Mason County Public Utility District No. 3, Washington
- Conservation potential assessment
- New load rate analysis
- Design and implementation of continuing property records fixed asset accounting system
- Cost of service and other miscellaneous financial related analyses
- Electric demand forecast
- Resource acquisition study
- Hydro evaluation
- Bond financing
- Least cost planning study
- Contract negotiations
- DSM program development
- Cogeneration review
- Fiber optics business plan
- Engineering/contracting assistance and oversight for reciprocating engine construction

McMinnville Water & Light, Oregon
- Integrated resource plan
- Cost of service/rate study
- Conservation potential assessment

Medicine Hat, City of, Canada
- Strategic planning
- Energy consulting
- Resource evaluation/AGC study
- Production costing modeling
- Electric power project assistance
- Utility revenue requirement policies and cost of service

Microsoft, Inc., Washington
- Power supply option analysis and contract negotiations
- Strategic planning

Midstate Electric Cooperative, Oregon
- Electric rate study

City of Millersburg, Oregon
- Formation of municipal electric utility

City of Milton, Washington
- Cost of service study
- Long-term strategic plan
- Substation design

Ministry of Fisheries and Oceans, Canada
- Expert testimony

Mission Valley Power, Montana
- Electric rate study

Missoula Electric Cooperative, Montana
- Electric rate study
- Net metering analysis

Montana Associated Cooperatives, Montana— (20 cooperatives within the state)
- Lead consultant in evaluation of acquiring major IOU service territory
- Strategic advice

City of Moreno Valley, California
- Cost of service study
- Prepared RFP for bulk power supply

M-S-R Public Power Agency, California
- BPA White Book analysis
- Litigation support

City of Needles, California
- Wastewater cost of service study
- Water and electric cost of service studies
- Financial planning

Nor-Cal Electric Authority, California
- Assisted in reviewing bid for purchase of investor-owned utility's facilities
- Negotiated MOU and final Purchase and Sales Agreement
- Performed engineering, environmental and financial due diligence for asset sale
- Assisted in preparation of regulatory approval materials
- Develop operating plan
- Power supply options evaluation
- Load forecast

Northern California Generation Coalition, California
- Regulatory assistance on natural gas issues

Northern Lights, Inc., Idaho
- Electric rate study
- Pole attachment rate study
- Large customer negotiations

Northern Wasco Public Utility District, Oregon
- Transmission and distribution design assistance
- Strategic planning
- Power supply resource evaluation
- Rate study
- Conservation potential study

Northwest Public Power Association (NWPPA), Washington
- Instruct technical seminars on integrated resource planning, rates, cost allocation, financial management and load forecasting
- Member of Board of Directors
- Strategic planning

Northwest Territories Power Corporation, Canada
- Regulatory filing, expert testimony
- Integrated resource planning study
- Strategic planning
- Power supply resource evaluation
- Rate study/load forecast

Northwestern Energy, Montana
- Prepared and evaluated RFP for default supply for retail load
- Expert testimony/regulatory assistance

Okanogan County Public Utility District, Washington
- Integrated resource planning study
- Cost of service study

Okanogan REA, Washington
- Strategic planning

Ontario Energy Board, Canada
- Regulatory cost allocation
- Distributed generation and standby rate study
- Expert testimony

Ontario Hydro, Canada
- Retail and wholesale rate evaluation
- Strategic planning
- Conservation evaluation
- Rate design mediation
- Integrated resource planning assistance
- Competitiveness study

Ontario Power Authority, Canada
- Energy conservation study

Orcas Power & Light Cooperative, Washington
- Cost of service analysis
- Resource evaluation/integrated resource plan
- Broadband study

Oregon Restaurant Association, Oregon
- Strategic advice
- Load aggregation

Pacific County Public Utility District, Washington
- Integrated resource study
- Rate studies
- Litigation support on pole attachment rates
- Power supply resource evaluation
- Fiber optics business plan

City of Palo Alto, California
- Power supply study
- Joint action review
- Gas, electric, water and sewer cost of service studies
- Demand forecast/resource evaluation
- Least cost planning assistance
- Customer choice program

Parkland Power & Light, Washington
- Rate study
- Strategic and least cost generation planning studies
- Power supply resource evaluation

City of Pasadena, California
- Water and electric cost of service and rate design studies
- DSM program evaluation

Pend Oreille County Public Utility District, Washington
- Hydro plant options feasibilities
- Integrated resource plan
- Bond issue for new transmission line
- Expert testimony/litigation support
- FERC relicensing
- FERC Part 12 inspections
- Penstock repair
- Dam design
- Fishery behavior studies
- Total dissolved gas reduction project
- Turbine upgrade
- Renewable energy credit analysis

Peninsula Light Company, Washington
- Electric rate study
- Asset evaluation study
- Power supply resource acquisition study
- Line extension analysis
- Conservation evaluation
- Integrated resource planning study
- Resource acquisition assistance
- Water quality advice
- Financial planning analysis
- Renewable resource evaluation
- Conservation potential analysis
- Load forecast

Pierce County Cooperative Association*, Washington*

- Negotiation of power contracts, resource evaluation and integrated resource plans
- Transmission system analysis
- Resource acquisition/Rate study
- Strategic planning advice

*(*Alder Mutual Light Company, Town of Eatonville, Elmhurst Mutual Power and Light Company, City of Fircrest, Lakeview Light and Power Company, City of Milton, Ohop Mutual Light Company, Parkland Light and Water Company, Town of Steilacoom)*

PNGC Power, Oregon

- Conservation potential study
- Contract evaluation risk study
- Cost of service advice

Polk-Burnett Cooperative, Wisconsin

- Rate study
- DSM study
- Strategic planning

City of Portland Water Bureau, Oregon

- Internal audit and valuation study
- Wholesale contract review

Portland General Electric, Oregon

- Hydro relicensing support

City of Port Angeles, Washington

- Resource acquisition studies
- Power supply strategic planning
- Merger study
- Conservation potential study
- Demand response strategic assistance
- Rate study
- Load forecast

Potomac Electric Power Company, Washington, D.C.

- Assistance in preparation of energy plan

PPL Montana, Montana

- Power supply evaluation and acquisition RFP
- Litigation support/expert testimony for hydro land lease dispute

Princeton Power and Light, B.C.

- Rate study
- Regulatory filings
- Expert testimony

Puyallup Tribe of Indians, Washington

- Hydro project evaluation/cost benefit study
- Strategic advice
- Expert report on hydro feasibility

Raft River Rural Electric Coop, Idaho

- Asset acquisition analysis

City of Red Deer, Canada

- Wholesale power rate negotiations
- Cost of service and rate design studies
- Expert testimony
- Strategic advice on deregulation and existing retail business

City of Redding, California

- Organization audit/strategic planning
- Competitiveness study/stranded cost review
- Citizens' Committee support
- Evaluation of power dispatch protocol

City of Reno, Nevada

- Auditing and renegotiating electric and gas franchise agreements
- Owner's agent for service territory acquisition of 75,000 customers for $450 million

City of Richland, Washington

- Power resource plan
- Valuation study
- Strategic planning services and consulting
- Analyzed storm drainage rates
- Evaluation of BPA slice product
- Management and operations review
- Integrated resource plan
- Conservation potential assessment
- Electric rate study
- Load forecast

Riveria Water Department, Washington
- Cost of service and rate design

City of Roseville, Oregon
- Electric cost of service model evaluation

Sacramento Municipal Utility District, California
- Load research and cost of service software
- Sample selection assistance
- Rate study
- Litigation support and expert testimony
- FERC licensing compliance audit

City of St. Paul, Alaska
- System valuation

Salem Electric, Oregon
- Retail rate study

Salmon River Electric Coop, Idaho
- Industrial rate development

City of San Bernardino, California
- Developed Community Choice Aggregation (CCA) technical business plan
- Design and construction management of cogeneration project
- Air quality permitting support

City of San Jose, California
- Developed Community Choice Aggregation (CCA) technical business plan
- Developed CCA electric power retail rate forecast

City of San Marcos, California
- Evaluation and due diligence for new municipal generation project
- New municipal electric utility formation options study

City of Santa Ana, California
- Developed RFP for strategic energy planning study

City of Santa Clara, California
- Cost of service study

Seattle City Light, Washington
- Hydro option evaluation study
- Transmission/distribution design

Seattle Times, Washington
- Evaluation of electric power supply options
- Contract negotiations for retail electric service

Seattle Water Department, Washington
- Rate, financial management and forecasting studies
- Conservation evaluation
- Strategic planning studies
- Contract negotiations
- Least cost planning
- Load forecast

SEH America, Washington
- Strategic consulting
- Electric supply option evaluation
- Natural gas supply transportation support

Shady Cove, Oregon
- Financing plan and prospectus development for water system purchase

City of Shoreline, Washington
- Negotiation assistance
- Strategic planning seminar
- Energy aggregation analysis
- Water service analysis
- Evaluation of strategic utility options
- Assumption negotiations of wastewater system
- Franchise fee negotiations
- Due diligence & valuation of utility system

Silicon Valley Power, California
- Cost of service study

Simpson Timber Company, California
- Engineering/financial consulting for a new woodwaste boiler/condensing turbine project

Skamania County PUD, Washington
- New large load
- Wheeling rate
- Electric retail rate study
- Pole attachment study

Snohomish County Public Utility District, Washington
- Calligan & Hancock hydro project design/construction management
- Average and marginal cost of service models
- Load research program
- Elasticity study/load forecast
- Power supply resource acquisition evaluation
- Cost of service model
- Landfill gas generation study
- DSM study
- Conservation potential assessment
- Energy efficiency behavior program evaluation
- Energy efficiency department support
- Regional office evaluation
- Engineering audit for FERC relicensing support

Solano Beach, City of, California
- Community choice aggregation peer reviews
- Power supply planning

South San Joaquin Irrigation District, California
- Start-up assistance
- Power supply evaluation

Southeast Idaho Cooperatives
- Asset acquisition analysis

Springfield Utility Board, Oregon
- Cost of service programs and comprehensive rate study
- Contract negotiations
- Power supply resource evaluation and acquisition assistance
- Cogeneration feasibility study

Surprise Valley Electric, California
- QF assistance/wheeling rates
- Expert testimony

City of Tacoma, Washington
- Conservation potential assessment
- Comprehensive electric and water cost of service and rate design analyses
- Power supply option resource study
- Review of line extension policy
- Elasticity and load forecasting studies
- Review of internal departmental staffing requirements
- Conservation effectiveness evaluation
- Policy seminars
- Integrated resource planning
- Contract negotiations
- FERC hydro relicensing assistance
- Major water use contract negotiations

Terasen Gas, Canada
- Integrated resource planning study
- Optimal dispatch model
- Retail cost of service/rate design filing
- Expert testimony
- Main extension development

Texas Municipal Power Agency, Texas
- Expert testimony
- FERC wheeling rate application
- State wheeling rate application
- Antitrust litigation support

Tillamook People's Utility District, Oregon
- Rate assistance

City of Toppenish, Washington
- Strategic advice
- Electric utility options study
- Valuation assessments

Truckee-Meadows Water Authority, Nevada
- Lead strategic and financial consultant in acquisition of 70,000 meter water system previously owned by Sierra Pacific in the Sparks/Reno area valued at $400 million
- 108" pipeline replacement project
- Hydro generator repair and rewind project
- Flume repair and upgrade design

Turlock Irrigation District, California
- Cost of service review
- Seminars on utility planning and operations
- Load growth study
- Time of use rates
- Marginal cost study for electric system
- Litigation support for contract disputes
- Customer service support
- Relicensing compliance audit

Umatilla Electric Cooperative, Oregon
- Cost of service study

US Ecology, Inc., Washington
- Expert testimony on cost of service and rate design issues
- Regulatory filing for Hanford nuclear waste disposal site

Vigilante Electric Cooperative, Montana
- Wheeling rate analysis
- Merger/acquisition study

Wasco Electric Cooperative, Inc. Oregon
- Electric rate study

Washington PUD Association, Washington
- Feasibility analysis for power options
- Sourcebook publication

Western Oregon Electric Cooperative, Oregon
- Cost of service study

City of West Linn, Oregon
- Water and wastewater rate studies
- Strategic planning
- Cogeneration feasibility study

Western Montana G&T, Montana
- Integrated resource planning study
- Power contract negotiations

Western Public Agencies Group, Washington*
- Representation and expert testimony in 1982, 1983, 1985, 1987, 1991, 1993, 1995 and 1999, 2001, 2003, 2007 and 2009, 2012 and 2014 BPA wholesale power and transmission rate cases
- Renegotiation of ASC methodology
- Ongoing BPA-related activities
- Integrated resource planning and strategic resource acquisition studies and advice
- Bulk power evaluation
- Power pooling study

*(*Alder Mutual Light, Benton REA Clallam County PUD, Clark Public Utilities, City of Ellensburg, Elmhurst Mutual Power & Light, Grays Harbor County PUD, Kittitas County PUD, Lewis County PUD, Mason County PUD #1, Mason County PUD #3, City of Milton, Ohop Mutual Light Company, Pacific County PUD, Parkland Light & Water Company, City of Port Angeles, Skamania County PUD, Town of Eatonville*

Western River Council of Governments (WRCOG), California
- Developed Community Council Aggregation (CCA) technical business plan

Weyerhaeuser, Inc., Washington
- Energy pricing and sourcing advice

Whatcom County PUD, Washington
- Strategic electric advice and options study

Village of Winnetka, Illinois
- Power supply resource evaluation and feasibility
- Cost of service/rate design study

City of Yakima, Washington
- Wastewater connection charge review
- Litigation support
- Expert testimony

EES Consulting

Yellowstone Valley Electric Cooperative, Montana

- Electric cost of service and rate design study
- Wheeling rate
- Coal and gas plant acquisition due diligence

Yucaipa Valley Water District, California

- Water and wastewater financial planning and rate studies
- Hydro plant evaluation