



Agua Caliente Band of
Cahuilla Indians

Development of a Strategic Energy Plan

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Final Report

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Executive Summary

Project Overview

The Agua Caliente Band of Cahuilla Indians was awarded a grant under the U.S. Department of Energy's ("DOE") Tribal Energy Program to develop a comprehensive Tribal energy plan. The grant, awarded under DOE's First Steps program, supported the development of a strategic energy plan that integrates with the Tribe's overall planning and economic development goals, and aligns with Tribal cultural, social, political, and spiritual values.

The Tribe set out to incorporate its energy plan into (i) a broader economic development strategy developed by investigators at the University of California at Riverside, and (ii) the overarching goals for job-creation and wealth-creation that are held by both the Tribe and the surrounding Coachella Valley. With these wide-ranging objectives in mind, the Tribe and its consultant, Red Mountain Energy Partners, engaged in a phased approach to creating the strategic energy plan. As illustrated in Figure 1 below, the proposed approach involved both "serial" and "parallel" activities. The capacity-building component of this approach occurred throughout the duration of the project period.



Figure 1: Project Approach

Project Objectives

The goals of the Strategic Energy Plan development project were to:

- Incorporate energy planning into the Tribe's existing and well-established practices relating to overall planning and economic development;
- Develop a framework for evaluating the many options currently placed before the Tribe and seize those opportunities most leveraging to the Tribe's values and goals, and
- Through the creation of an enduring Energy Vision and Strategic Energy Plan document, establish a set of guiding principles and a sound evaluation process for optimizing the allocation of its people and financial resources toward the most efficacious energy options on an ongoing basis.

Description of Activities Performed

The Tribe and its consultant utilized a series of discussions and interviews with the Energy Issues Committee (comprised of high-level Tribal staff appointees), Tribal Council, and other key study informants to develop the Strategic Energy Plan. Insights gained from those interactions,

combined with research, personal interviews, and the consultants' collective subject matter expertise were all used to engage in a process that included:

- Identification of "first cut" energy options;
- Development of evaluation criteria for assessing options available to the Tribe;
- Development of an Energy Vision statement, created through a visioning process with the Tribal Council and staff;
- Quantitative and qualitative assessment of energy options, resulting in identification of alternatives deemed as "best fit" energy options; and
- Final recommendations for near-term, mid-term, and long-term actions to be undertaken, along with high-level implementation and timing requirements.

Patents

No patents were filed as a result of this work.

Conclusions and Recommendations

Recommended Actions

Via the five-stage process described in the Introduction of this document (Page 1), Red Mountain formulated a set of recommended actions to be undertaken by the Agua Caliente Band of Cahuilla Indians. The actions fall into categories of "near-term implementation", "further study", and "continued monitoring". The recommendations are listed in summary form below in Figure 2, and described in detail in the "Recommended Actions" section of this document on Page 24.

Actions for Near-Term Initiation/Execution

- **Recommendation #1: Utility Organization**
Red Mountain recommends the Tribe pursue formation of a utility organization that is "scalable", and provides for future consideration of ownership and operation of utility infrastructure. Such an option would be exercised if and only if Agua Caliente electrical infrastructure ownership and operation are warranted in the future.
- **Recommendation #2: WAPA Allocation**
Red Mountain recommends the Tribe move forward to evaluate options for optimizing its recently awarded federal power allocation.
- **Recommendation #3: Energy Management Goals**
Red Mountain recommends the Tribe undertake specific efforts to achieve reductions in energy costs, leverage available funding and incentives, and build recognition of the importance and value created through effective energy management.
- **Recommendation #4: Renewable Energy Generation Opportunities**
Red Mountain recommends the Tribe continue its participation in the SWTEC feasibility studies, consider on-Reservation solar facilities as a possible project for SWTEC consideration, and pursue near term opportunities to conduct a pilot solar project at the Indian Canyons Trading Post in Palm Canyon.

Actions for Further Study/Longer-Term Initiation

- **Recommendation #5: Energy Efficiency Building Codes**
Red Mountain recommends the Tribe undertake long term efforts to achieve reductions in energy costs, through establishment and adoption of energy efficient building codes.
- **Recommendation #6: Right of Way Documentation and Assessment**
Red Mountain recommends Agua Caliente undertake a strategic initiative to document its existing rights-of-way, any existing or expiring agreements, and to establish a portfolio approach to future ROW asset management.

Actions for Continued/Future Monitoring

- **Recommendation #7: Energy Technology**
Red Mountain recommends Agua Caliente maintain efforts to periodically consider investment opportunities in the areas of renewable energy generation, “clean tech”, energy efficiency, and other energy related ventures.

Introduction

In August 2005, the Agua Caliente Band of Cahuilla Indians was awarded a grant under the U.S. Department of Energy's (DOE) Tribal Energy Program to engage in a process that would result in the development of a comprehensive Tribal energy plan. The grant, awarded under DOE's First Steps program, supported the development of a strategic energy plan designed to integrate with the Tribe's overall planning and economic development goals, and align with Tribal cultural, social, political, and spiritual values.

During the plan development process, the Tribe's Energy Issues Committee (EIC), comprised of the Directors of Economic Development, Planning, Construction, and the Chief Engineer, articulated the Staff's desire to incorporate energy planning into (i) a broader economic development strategy currently underway with the University of California at Riverside, and (ii) the overarching goals for development and wealth-creation that are held by both the Tribe and the surrounding Coachella Valley.

During the project period, the Tribe engaged Red Mountain Energy Partners (Red Mountain) to assist with facilitation of the planning process. Red Mountain undertook a process comprised of ongoing capacity building and five basic stages:

- Building Tribal capacity within the areas of energy management, utility services, and energy technology development and commercialization and energy generation and delivery.
- Through facilitated discussions with key stakeholders,
 - » Creation of an Energy Vision that maps to the Agua Caliente Band of Cahuilla Indians' overall Vision, Mission, and Goals and to both the Tribe's and the Coachella Valley's economic development strategy;
 - » Development of a Reservation energy use profile that depicts current and forecasted Tribal energy consumption by end use and allows for identification of optimum opportunities for energy management;
 - » Identification of a set of viable energy options within the areas of energy management, utility services, and energy technology development and commercialization and energy generation and delivery;
 - » Analysis of the available options, using a set of relevant Tribal and external filters, to create the best-fit energy options, and achievable goals, consistent with the Tribe's Energy Vision; and
 - » Development of an actionable Strategic Energy Plan that identifies specific initiatives for carrying out the identified goals and achieving the desired Energy Vision.

Energy Vision

As part of the Strategic Energy Plan Development Project sponsored by the USDOE, Tribal Staff and Council undertook efforts to develop an “Energy Vision” that would form the foundation of the Strategic Energy Plan. The Energy Vision is formulated from the Tribe’s overall Vision, Mission & Values Statement, and is intended to stand as an enduring policy instrument from which future decisions will be guided. The language of the Vision Statement appears below:

Mission, Vision & Goals

Energy

Tribal Mission Statement:

Through our commitment to teamwork, provide an unsurpassed level of service in a quality environment.

Energy Vision:

The overall vision of the Agua Caliente Band of Cahuilla Indians embraces the continuous provision of exceptional quality and service to all team members and guests. The availability of safe, reliable, affordable, and clean energy is critical to achieving this vision. Thus the Tribe is committed to further its goals for self-sufficiency, self-determination, and sustainable development through empowerment in the Tribe’s energy interests; to ensure adequate supply and quality of energy to meet the Reservation’s present and future needs; and, thereby, contribute to the economies of the Agua Caliente Band of Cahuilla Indians and the surrounding Coachella Valley, consistent with the Tribe’s dedication to a clean, safe, and secure environment.

Strategic Energy Goals:

- To meet the intent of, and realize, the Agua Caliente Band of Cahuilla Indians Energy Vision.
- To exercise Tribal sovereignty and rights of self-determination.
- To utilize strategic energy management as a means to facilitate accomplishment of the Tribe’s goals for creation of prosperity and enhanced quality of life for its members.
- To integrate energy management into the Tribe’s pursuit of economic and community development goals.
- To utilize strategic energy management as a means to contribute to responsible and sustainable development on Reservation trust lands and in within the surrounding Coachella Valley.

Near Term Energy Objectives:

- To determine energy management alternatives that can further the Tribe's goals for enhanced quality of life through improved reliability, safety, and affordability of energy services for the Tribe.
- To identify and act upon energy management alternatives, and/or viable energy efficiency, conservation, load management, and/or renewable generation projects that can facilitate economic and community development.
- To identify and act upon opportunities for development of Tribal renewable energy resources that meet Tribal needs, consistent with the Tribe's mission to preserve resources, cultural heritage, traditional values, and beliefs.
- To evaluate and act upon the formation of an appropriate Tribal Utility Entity, capable of advancing the Tribe's energy management objectives.
- To act upon current trends and policy changes, which create opportunities for empowering the Tribe in managing its energy affairs.

Energy Use Profile

Purpose of the Energy Profile

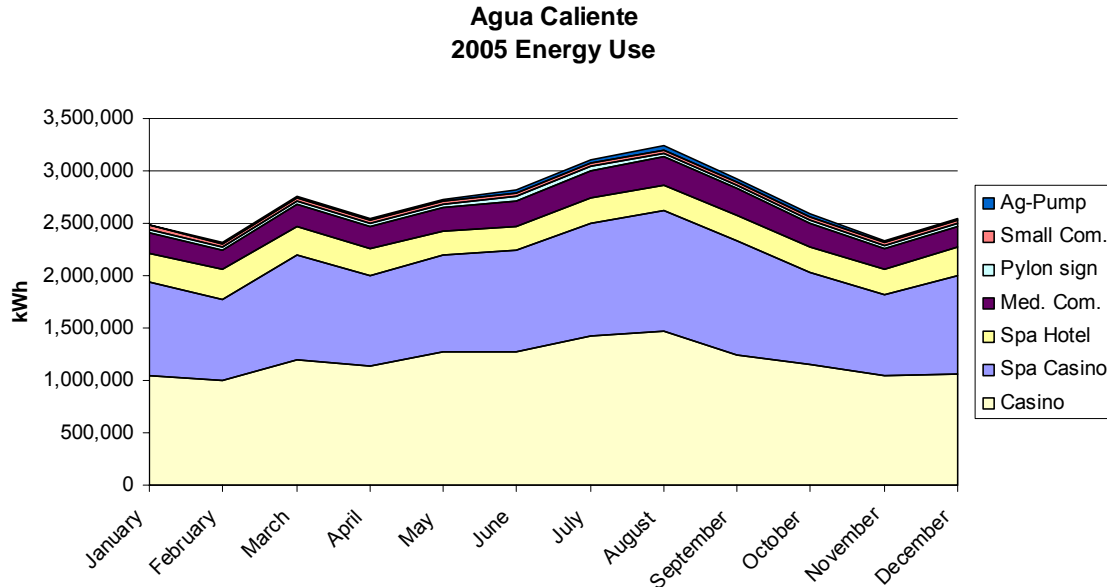
One of the elements of the overall project was the study of energy consumption for the Tribe's key commercial facilities. The relevance of such a study is that it allows for (i) identification of optimum alternatives for energy management opportunities, and (ii) it establishes baseline energy needs that are essential in planning any future on-site or central station renewable generation facilities.

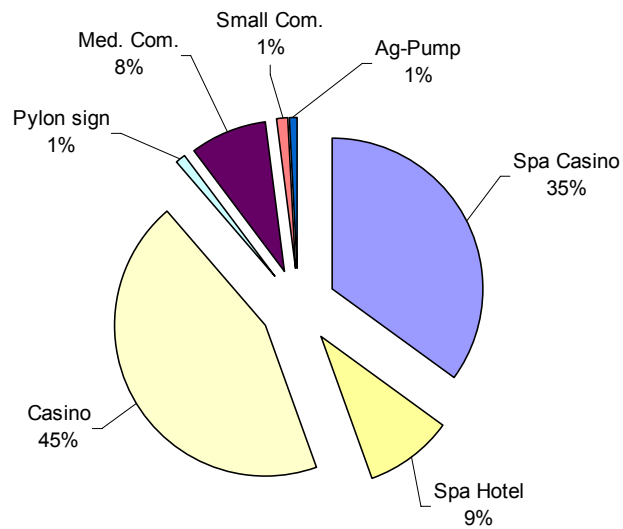
Energy management opportunities include conservation, energy efficiency improvements, weatherization, demand management, and demand response (actions taken in response to real-time energy and/or energy pricing information). The renewable generation opportunities most widely considered within the scope of this project have been small and large-scale solar energy generation, small-scale wind generation, and to some extent, renewable/conventional hybrid project configurations.

An understanding and comprehensive documentation of energy consumption is essential to both energy management and power generation planning.

Results of the Energy Use Profile

The results of the load profiling analysis are summarized in the graphs below.





Notes: - "Ag. Pump": Agricultural pump load
- "Small Com": Combined small commercial loads
- "Med. Com.": Combined medium commercial loads

Formation of the Strategic Energy Plan

Motivation and Objectives

As a prominent member of the Coachella Valley community and one of the area's largest employers, the Agua Caliente Band of Cahuilla Indians is recognized for its leadership in community and economic development. The Tribe's successful ventures have also created awareness of the Tribe's business acumen and capacity to contribute to the region's overall prosperity.

Over the last two years, this recognition has increasingly caused entrepreneurs, developers, and a variety of external parties to approach the Tribe with energy-related business proposals and development opportunities. These initiatives, which include utility franchise and Right of Way (ROW) documentation, renewable and conventional (fossil fuel) energy generation, and alternative fuels production, as well as notifications of federal grant availability to support such ventures, find multiple paths of ingress to Tribal Staff and Council Members. The growing number of energy-related opportunities before the Tribe has in turn spawned recognition that:

- » There is significant potential for the Tribe to seize and leverage such opportunities in a way that creates synergies with ongoing Tribal goals;
- » There is a need for a systematic process for fielding and vetting proposed opportunities, and
- » There is a compelling need for a high-level and enduring strategic Tribal Energy Plan that sets out policies and uniform criteria for evaluating the many opportunities before the Tribe.

The above needs and observations are the fundamental motivation and objectives for the DOE-funded Strategic Energy Plan Development project.

Strategic Options Considered

A critical task undertaken by the Tribe's consultant as part of the Strategic Energy Plan development project was the identification and prioritization of viable energy options that should be recommended for further evaluation and/or implementation by the Tribe. Identification of the options was achieved through a series of activities that included multiple discussions and interactive presentations with the EIC, an information exchange and visioning process with the Tribal Council, research and personal interviews with relevant local entities, and compilation of Red Mountain's collective subject matter expertise. The options considered fell into five categories:

- » **Utility Services:** Examination of the Tribe's options for creating a Tribal Utility organization that would oversee and coordinate energy initiatives, provide jurisdictional oversight of all utility services, own and operate certain utility infrastructure, and/or generate/deliver power via renewable or conventional resources.
- » **Energy Management:** Conservation, energy efficiency improvements, and management of the Tribe's overall energy consumption requirements.
- » **Renewable Energy Generation:** Development of renewable or renewable/fossil hybrid energy generation projects to supply a dedicated facility or facilities and/or overall Reservation energy needs.

- » Energy Technology Deployment and Commercialization: Passive or active Tribal investment in the deployment/development of distinctive renewable energy and/or clean technologies, which have the potential to create wealth for the Tribe and/or surrounding Coachella Valley.
- » Energy Delivery: Development of options to actively manage ROW and/or establish power wheeling opportunities.

The specific options examined are conveyed in Table 1 below, and discussed in further detail in the sections following.

| Utility Service Options | Energy Management Options | Renewable Generation Options | Energy Technology Options | Power Delivery/ROW Options |
|-----------------------------------|--|---|--------------------------------------|-----------------------------|
| Utility oversight authority | Energy accounting software | Large renewable energy generation | Technology investment | ROW management |
| Utility service quality standards | Energy Efficiency surcharge recovery | Small-scale renewable energy generation | Large Facility Supply | WAPA allocation Integration |
| Tribal energy committee | Energy Efficiency building codes | District heating/cooling | Real-time metering | CCA |
| Utility generation authority | Energy Efficiency procurement policies | | Demand response | ROW valuation |
| Utility operating authority | Optimized work schedules | | Advanced renewable energy technology | Wheeling agreements |
| | Multi-building EMS/M&C | | Renewable energy capital fund | |
| | TOU management | | Renewable energy equity play | |
| | Process improvements | | | |

Table 1. Energy Options Considered

Evaluation Process

As noted, the identification of energy options for consideration was achieved through facilitated discussions and interactive presentations with key stakeholders, research, interviews, and the consultants' collective subject matter expertise. Red Mountain carried out an ordered process to (i) first identify a broad set of possible options within the five selected categories that seemed most relevant and potentially beneficial to the Tribe, (ii) narrow the broad set of alternatives down to a set of "first cut" options on the basis of agreed upon filters and screening criteria, and (iii) apply an analytical process to further screen the remaining alternatives and identify the relevant set of "best fit" energy options for the Tribe, with incorporation of all information gathered

regarding Tribal and stakeholder cultural, spiritual, societal, environmental, and economic values and objectives. The process is illustrated in Figure 1.

The “Evaluation and Selection” stage depicted in Figure 1 comprised the above-referenced analytical process used to screen the broader first-cut energy options down to recommended “best-fit” options.

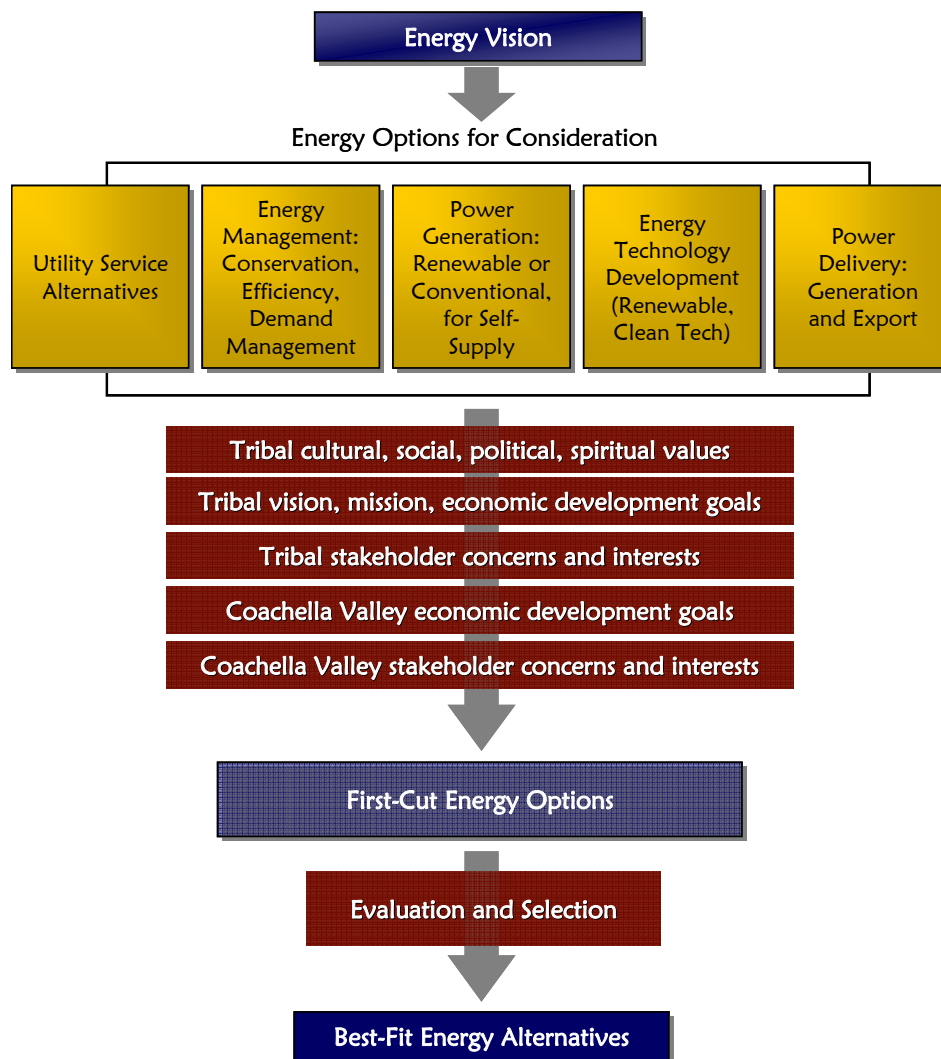


Figure 1. Energy Option Development and Evaluation Process

First Cut Energy Options

Through discussions with the EIC and other stakeholders, and in keeping with the proposed stages of the evaluation process, Red Mountain compiled over 60 alternatives for energy-related initiatives that spanned the five option categories depicted in Figure 1. The many alternatives were evaluated in the context of the filters portrayed above and furthered screened down to a set of 28 “first cut” energy options. At this stage, the screened alternatives were deemed to be consistent with Tribal and stakeholder goals, but had not yet been subject to final analysis. The set of 28 first cut options are those illustrated in Table 1.

Analytical Evaluation

In order to screen and prioritize energy alternatives available to the Tribe, Red Mountain created a scoring and weighting methodology that ranked options according to value metrics as indicated by the discussions, interviews, and research conducted throughout the plan development process. The scoring process contemplated the overall *value* of an option vs. the costs and risks associated with its implementation. Value was uniquely defined for each of the 28 options included in Table 1. A brief description of the analytical process is:

1. In each of the five Energy Option categories, appropriate “value metrics” were chosen for the purpose of assigning a quantitative score of zero to one hundred to each option’s overall value.
 - a. The assigned score was based on a summation of scores for each of the value metrics relevant to the option category. Value metrics included:
 - » Alignment with Tribal Values
 - » Alignment with Council and EIC Guidance
 - » Alignment with Tribal Vision, Mission, Goals
 - » Alignment with Other (e.g. - Coachella Valley Entities) Stakeholder Interests
 - » Potential for Wealth Creation
 - » Potential Environmental Benefit
 - » Potential for Collaboration/Relationship Building
 - » Potential for Enhanced Community Standing
 - » Potential Reliability Improvement
 - » Potential Quality of Service Improvements
 - » Availability of Outside Funding and Leveraging Incentives
2. Similarly, for each option category, appropriate value metrics were also chosen to characterize cost and risk associated with the implementation of each option.
 - a. The assigned score was based on a summation of scores for each of the value metrics relevant to the option category. Value metrics included:
 - » Capital Costs
 - » Operating Costs
 - » Life-Cycle Costs
 - » Relationship and Political Risks
 - » Financial Risks
 - » Operational Risks
 - » Environmental Impact
 - » Economic Impact
 - » Logistical Feasibility

- » Implementation Ease/Barriers
 - b. Risk and cost scores were assigned to the options *relative* to each other within their respective categories. Scores for power generation costs, for example, were not assigned according to the same scales as energy management implementation costs.
3. Within each of the five option categories, the individual options were scored and graphed as “scatter plots” to visually portray their respective “Value vs. Cost” and “Value vs. Risk” rankings. The scatter plots are depicted in the Results section of this document.

Best Fit Energy Options

Of the opportunities examined, 14 of 28 first-cut alternatives emerged as best-fit energy options for further evaluation and/or implementation. The fourteen options are briefly defined in the list below, and further expanded in the sections following.

Utility Service Options

1(a) *Utility Organization Development*

A utility organization could be developed which would centralize Tribal activities with regard to strategic energy management. A structure that appears to best fit this situation would be an oversight authority created as an entity of the Tribe, which would be created by Council Resolution to oversee and/or exert jurisdiction over energy matters of interest to the Tribe. The organization could be formed in such a manner as to be “scalable”, to allow for further development of the organization. Once in place, the utility organization could potentially increase its jurisdictional authority, as appropriate.

1(b) *Utility Service Quality Standards*

Service quality standards may be established by the Tribe by virtue of the fact that external utility service providers do not have complete franchise rights on sovereign Tribal lands. As such, the Tribe may set standards for a variety of service attributes such as disconnect and reconnect policies/notification, ROW negotiation procedures, safety, and reliability.

Energy Management Options

2(a) *Energy Accounting Software*

Energy accounting software captures and reports energy consumption in frequent intervals, allowing energy users to monitor energy consumption in near-real-time and reduce energy costs by managing demand and time-of-use patterns.

2(b) *Focused Initiatives to Recoup SCE Energy Efficiency Charges*

“Public Good Charges”, or energy efficiency surcharges, are embedded in the electricity billings that the Agua Caliente Band of Cahuilla Indians pays to Southern California Edison (SCE) each month. During the 2005 timeframe, these charges were on the order of \$165,000 annually. At the same time, SCE has a programmatic budget of over \$215M to execute energy efficiency programs for its customer base; many such programs take the form of incentives and rebates paid back to customers. This option contemplates the undertaking of a proactive initiative to ensure that the Tribe recoups at least the amount of benefit as is paid each year in energy efficiency surcharges.

2(c) *Energy Efficiency Building Codes*

The Tribe has authority to establish energy efficiency performance requirements for all new buildings. These requirements may be formally codified and enforced by the Tribe, and may also be imposed as retrofit standards. Energy efficiency codes may comprise everything from informal promotion of energy efficiency initiatives to administrative processes for application, review, inspection, and enforcement. The goal is to effect energy savings, which can reach as high as 25% - 40%.

2(d) *Energy Efficiency Procurement Policies*

Energy efficiency procurement policies are a simple and inexpensive means of effecting energy cost reduction. The Tribe may establish standards and guidelines for purchasing high efficiency apparatus, appliances, building materials, etc as a normal part of procurement. Such purchases may include DOE-certified "Energy Star" appliances, high efficiency motors, dual-pane windows, motion-sensing switches, and compact fluorescent lighting.

2(e) *Optimized Work Schedules*

This option contemplates the utilization of service crews (cleaning, maintenance, plant care, etc.) for the Tribe's commercial buildings during normal business operating hours rather than night shift hours. Many such services are routinely performed during evenings to avoid business disturbance. However, businesses increasingly find that many services can be performed non-invasively during daytime hours, thereby eliminating the need for additional Heating, Ventilation & Air Conditioning (HVAC) load after business hours.

2(f) *Multi-Building Energy Management System*

Energy Management Systems (EMS) are used to automate and remotely control building energy functions such as HVAC cycling, lighting, industrial processes, chillers, etc. EMS options can be highly sophisticated, centralized multi-building control schemes with features such as local override, threshold alarming, remote access, and even paging systems to alert energy/facility managers during non-tolerance conditions. EMS options may also be less robust and correspondingly less expensive, and may be geared primarily toward energy-use monitoring. Energy accounting software is generally integrated into EMS product offerings.

Generation/Development Options

3(a) *Renewable Generation*

Renewable generation alternatives have been comprehensively studied by the Tribe, particularly during the last two years. Further, as the Tribe has informally participated as a member of the Southwest Tribal Energy Consortium (SWTEC), regional opportunities for renewable and renewable/fossil hybrid projects have been examined. On Reservation trust lands, Tribal Council and Staff have expressed interest primarily in solar energy, and potentially small-scale wind applications. SWTEC continues to examine larger scale opportunities that may include utility-scale wind farms and/or central station solar plants firmed by natural gas. This option contemplates continued examination of these opportunities. Further, the Tribe has completed a feasibility study for a solar hybrid project at the Indian Canyons Trading Post. The project contemplates the installation of solar photovoltaic panels mounted upon shaded

parking structures to power the facility and thereby replace the existing propane generators that currently supply the off-grid facility.

3(b) *District Heating/Cooling*

District heating systems distribute steam or hot water to multiple buildings. The heat can be provided from a variety of sources, including geothermal, cogeneration plants, waste heat from industry, and purpose-built heating plants. Similarly, district cooling systems distribute chilled water or other media to multiple buildings for air conditioning or other uses. The cooling (actually heat rejection) is usually provided from a dedicated cooling plant. More than 30,000 district heating systems are in place in the U.S. and district cooling is now widely used in downtown business districts and institutional settings such as college campuses. This option contemplates collaboration between the Tribe and other commercial facility owners such that contiguous heating or cooling “loops” could be formed. The option may also create opportunities for enhanced community partnerships, and showcase the Tribe’s commitment to energy efficiency and sustainable development.

Energy Technology Options

4(a) *Technology Investment Diversification*

To date, much of the Tribe’s overall investment portfolio has been comprised largely of hospitality and commercial land-use ventures. This option contemplates conservative investments in “clean tech” and renewable energy technology as possible opportunities for both wealth creation and portfolio diversification.

Power Delivery/ROW Options

5(a) *ROW Management*

This option anticipates formulation of a long-range strategy to manage and treat infrastructure Rights-of-Ways (ROWs) in a portfolio manner, as well as an opportunity to explore additional energy delivery options. In a portfolio approach, Tribes can manage expiring rights of ways as a portfolio, as well as negotiate the highest and best use of those corridors on an overall portfolio basis. This approach may provide value for both the incumbent utility as well as for Tribal customers, as it represents an opportunity to establish an ongoing working relationship with the transmission owner/utility as opposed to treating ROW projects on a case-by-case basis. The success of such an association would of course entirely depend on the utility and the Tribe’s relationship and future needs and whether a proactive collaborative relationship makes sense in those terms.

The other opportunity that new or renewals of ROWs offers to Agua Caliente is an opportunity to explore ownership of strategic Transmission & Distribution (T&D) facilities if the Tribe seeks:

- » Sufficient transmission ownership and/or control to achieve qualification standards for wholesale power purchasing contracts; and
- » Sufficient transmission and/or transmission ownership foundation upon which to build a viable Tribal utility operation, particularly where there is a Tribal large load customer to serve as the primary anchor customer.

5(b) *Integration of WAPA Allocation*

There are several viable alternatives associated with the Tribe's recent notification that it is eligible for a discounted federal power allocation. Many Tribes, perhaps even most, are receiving their power allocation as a pass through credit to either a single large-load customer or to numerous Tribal customer account holders. In either case, the incumbent utility physically receives and delivers the federal allocation and adds their transmission and distribution costs to the allocation. The Tribal customer sees a separate line item credit on its utility bill identifying it as such. Because the value of the allocation includes the utility's costs to deliver the power, the value of the federal allocation is reduced. The primary reason for this pass-through credit arrangement is that federal law requires its power administrations contract with utilities/entities which have the ability to physically take power and can also meet the contract requirements associated with long-term financial commitments.

Two other options to capture more value of the federal allocation include:

- » Establish a Tribal utility.
 - While most envision a utility as a complex and sprawling series of poles, wires, substations and power plants, formation of a utility can allow for physical receipt of wholesale power and retail delivery to a customer. Tribes can establish a utility for the primary and initial sole purpose of holding their interest in substation/metering facilities that receive and transmit wholesale power to their large-load single casino complex customer.
- » Assign the allocation to another Tribe who is willing to contract for that power for an acceptable length of term and compensatory structure suitable to Agua Caliente.
 - Several Tribal utilities have interest in potentially purchasing other Tribes' federal power allocations in order to serve their rapidly expanding service territories, and could potentially provide value greater than that provided through a crediting mechanism.

5(c) *Community Choice Aggregation (CCA)*

Community Choice Aggregation (CCA) is a provision of California law that allows local governments to aggregate the electric loads of electric service customers within their jurisdictional boundaries, with the goal of facilitating the purchase and sale of electricity. CCA is further described in the section following. CCA can potentially offer significant benefits to the Tribe, such as local control over the energy resources utilized by the community, the ability to provide electricity to customers at a lower overall cost, and a greater use of renewable energy. The Aggregator may choose to accrue savings directly to its CCA customers through lower electric bills or utilize savings to provide enhanced services to its constituents.

Results of Analysis

The final selection of first-cut options was not based strictly on a quantitative threshold or specified position among the value/cost/risk quadrants within the scatter plots. Rather, final screening was based upon a combination of those factors, combined with further dialogue and confirmation from the EIC. Raw scores are provided in Appendix C. As noted, energy options were plotted on a Value vs. Cost and Value vs. Risk basis. Note that the options with the highest overall value and least risk/cost appear in the lower right quadrant of each graph. Each of the resulting "best fit" options is defined in further detail below.

In selecting those options that emerged as “best fit”, Red Mountain also included some alternatives whose scores emerged as high cost, high value, and low risk (upper and lower right quadrants). The intent was to not rule out those options that may have high initial capital costs, for example, but could yield very high returns and overall value for the Tribe. Such options generally fall into the category that Red Mountain has suggested for further evaluation and/or ongoing analysis, as discussed in the “Recommended Actions” section of this document.

Figures 2a–2e. Energy Option Scatter Plots

Figure 2a. Utility Service Options

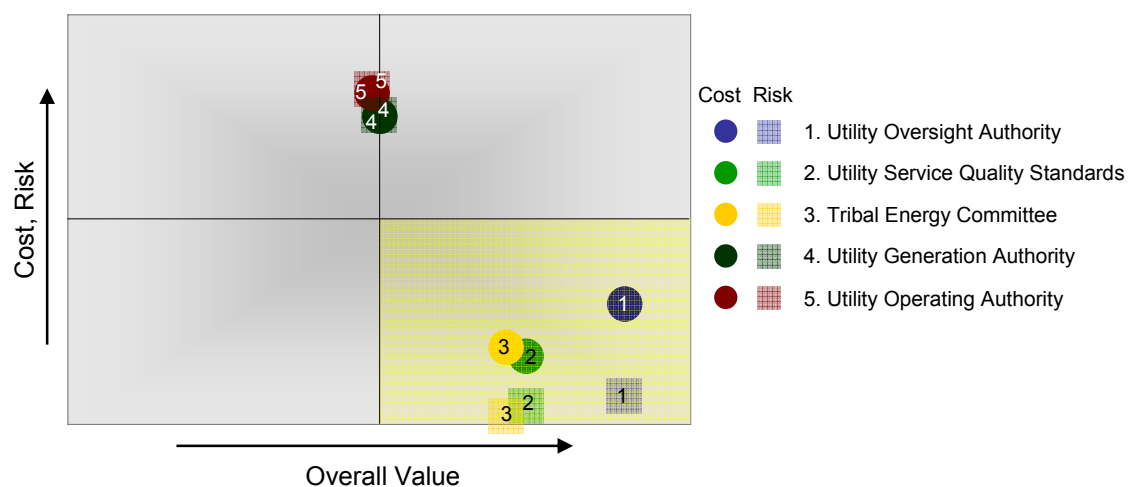


Figure 2b. Energy Management Options

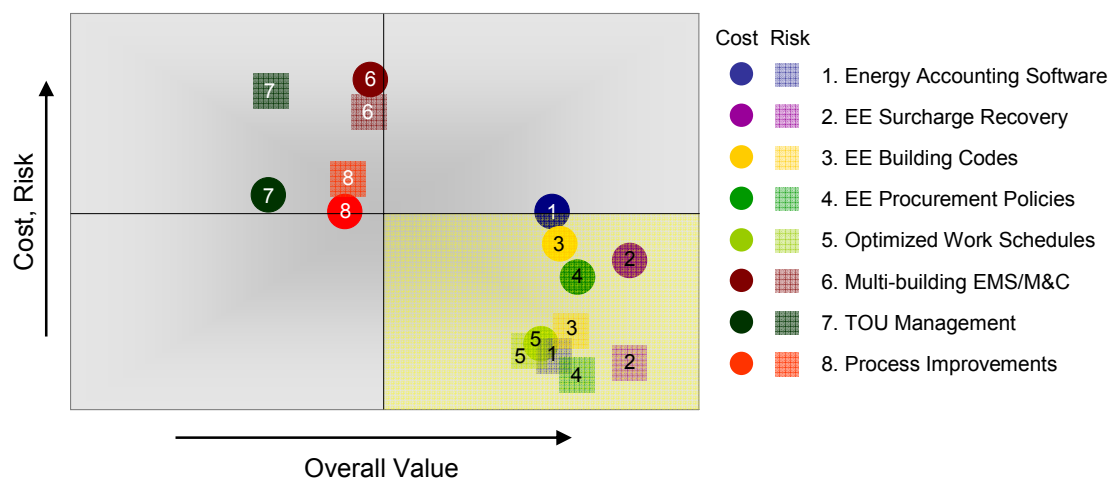


Figure 2c. Generation Options

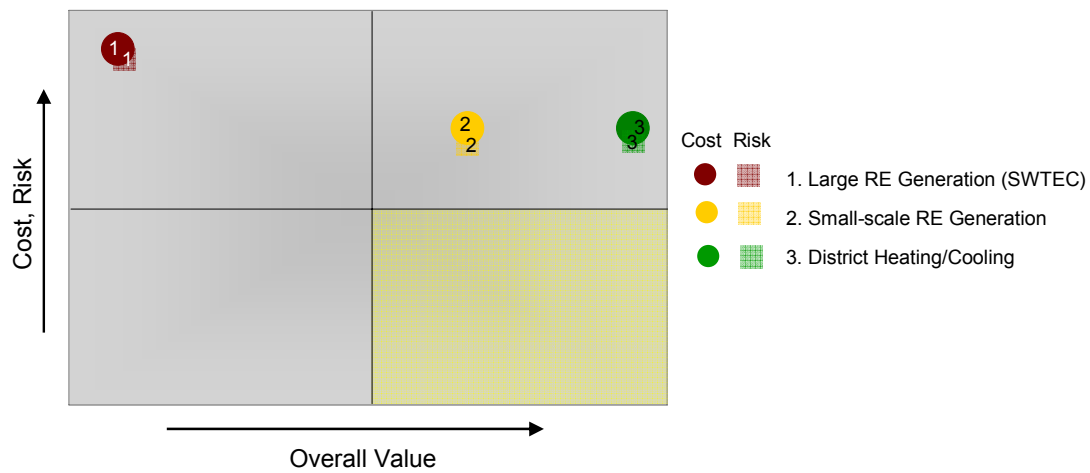


Figure 2d. Energy Technology Options

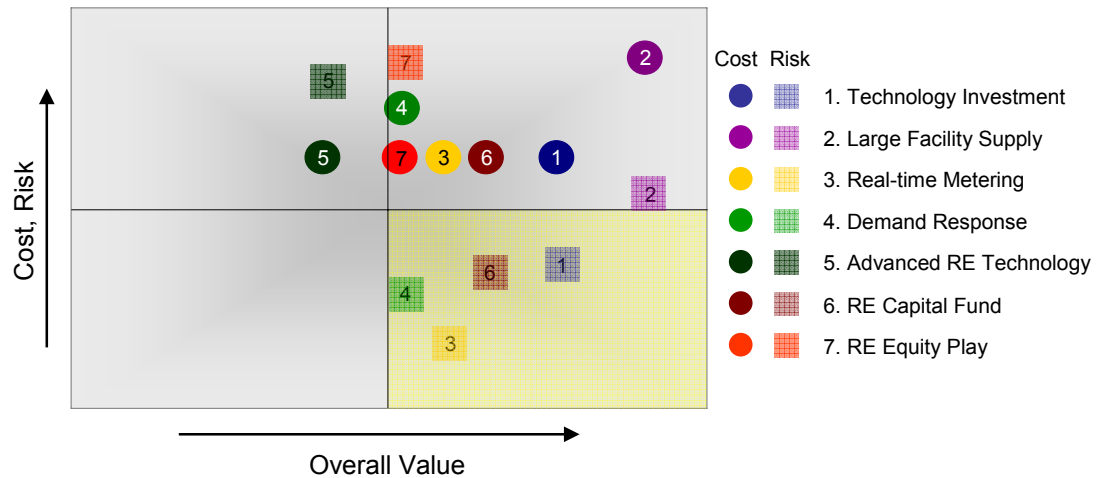
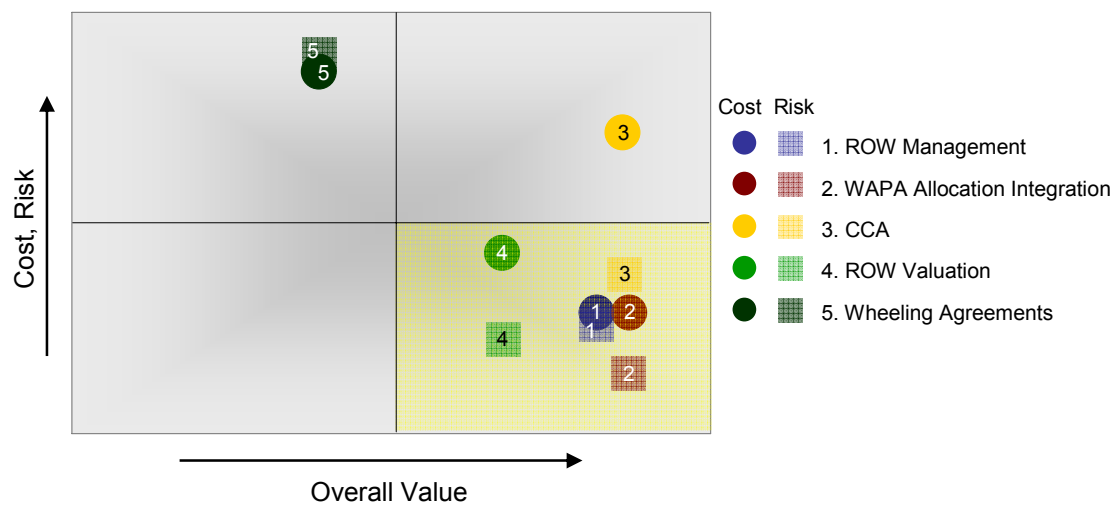


Figure 2e. Power Delivery Options



Best-Fit Options: Further Background and Discussion

Several of the fourteen options described above warrant further delineation and some discussion of the reason(s) for their emergence as best fit options for the Tribe's consideration.

Utility Services, Option 1(a)

Development of a utility oversight structure would provide Agua Caliente the maximum breadth and depth of available options, as it chooses to exert greater control over the utility services provided to Tribally owned and operated facilities. Options for Agua Caliente to consider include:

- Exerting Energy Issues Committee influence by recommending energy policies for the Tribe;
- Creating a formal Energy Department and leadership, which could establish official direction, measures and reporting mechanisms for its energy-related activities;
- Creating a Tribally-authorized oversight authority, as an entity of the Tribe, which would provide Agua Caliente the ability to develop a Utility code and enforcement mechanisms; and
- Creating a Tribally-authorized utility authority with all the enforcement capabilities of an oversight authority, plus the option to own and operate utility infrastructure, including generation and distribution.

As noted earlier, the Tribe has contemplated owning and operating its own electrical facilities. The Tribe commissioned a feasibility study to examine a number of key issues, opportunities, reasons for consideration of a Tribal Utility, and in some cases, *questions* about authority, how to address service provision to on and off-Reservation customers, and the Tribe's potential ability to produce lower cost energy than its current service provider, Southern California Edison.

The primary reasons for consideration of a Tribal utility organization include (1) already high and rising electricity rates, with no expectations of reduction for at least ten years, and (2) the Tribe's potential to provide highly reliable, low cost energy and at the same time create a market asset and source of new revenue for the Tribe, 3) power reliability concerns related to the existing utility infrastructure age and condition. During the course of this project, Red Mountain assessed the utility formation opportunity, the associated issues it raised, and its potential fit with the Tribe's goals of improved reliability and cost of service.

A vital question related to the viability of such a venture is whether or not the state of California's mandated energy surcharges, which comprise a significant portion of the regulated California utilities' rates, would be applicable to a newly formed utility. These surcharges were established during the period of energy industry restructuring (a) to allow the state's regulated Investor-Owned Utilities (IOUs) to recover their investments in so called "stranded" assets, when a return on capital would no longer be guaranteed via a fixed rate base in a deregulated environment, and (b) to allow IOUs to collect funds from their ratepayers to repay the state of California for its purchase of power blocks for IOU customers during the period of insolvency that followed the California energy crisis of 2000.

Two significant elements of risk and complexity that the Tribe must consider are:

- » ***Assertion of immunity against mandatory energy surcharges:*** The Tribe's ability to produce lower cost energy than is currently provided by SCE hinges on a number of parameters, and one of the most critical is its ability to assert that the customers of its

newly formed utility should not be subject to California's mandatory energy surcharges as described above. Such an assertion would necessarily engage the Tribe in a precedent-setting and highly contentious debate that would very likely place the state's regulated IOUs, the California Public Utilities Commission (CPUC), and other municipalities in an opposing position. Moreover, California has taken the position that electricity customers who leave IOU service must pay cost recovery fees ("exit fees") in exchange for the benefit of state-purchased electricity they received while still served by IOUs.

- » **Cost of service recovery:** If the Tribe were to take ownership of the electrical assets necessary to provide energy throughout its noncontiguous service area, SCE would have the right to ensure that its remaining customers, who would also now be served in a noncontiguous territory, receive no disruption in service and no degradation in reliability. Physically, the power distribution facilities whose reliability is presently enhanced by "loop" configurations and complex protective-relay schemes, would have to be rebuilt and reconfigured to accommodate the many breaks to existing loop-feed power lines that would necessarily occur in accommodating a "checker board" service territory. SCE also bears the right to recoup the cost of such reconfigurations, which would be considerably higher than the cost of the original, contiguous power lines and associated apparatus.

Further, the goal of mitigating electricity rate increases can indeed be addressed through other means available to the Tribe.

One such option is Community Choice Aggregation (CCA), which is described in more detail in the description of Option 5(c). CCA would not only obviate the risk of confrontational proceedings; it would instead provide an opportunity to develop positive partnerships with neighboring Coachella Valley jurisdictions, thereby enhancing community relationships. Further, it would offer an opportunity to reduce overall electricity costs through aggregated wholesale purchasing power.

Given the Tribe's recent WAPA allocation announcement and interest in exercising oversight of utility services, Agua Caliente would be served best by creation of a Tribal utility organization, with the authority to oversee and operate certain energy assets. Creation of this entity does not suggest operation of poles and wires; however, it would allow Agua Caliente to establish utility service quality standards, as well as to provide options for power generation and/or acceptance of power supply to serve certain Tribal facilities.

Energy Accounting Software, Option 2(a)

Many organizations spend significant sums on energy but lack access to energy-use data in a form that facilitates energy management. Utility billing periods align with meter reading cycles rather than calendar periods, which complicates periodic review and planning. Energy accounting software captures and reports energy use information in a manner to facilitate energy management and support organizational energy related decisions. Figures 3a and 3b illustrate sample graphical outputs from such energy accounting systems.

The value proposition of energy accounting software tools lies in their ability to provide energy/facility management personnel timely and "granular" information about energy consumption. This information in turn, facilitates cost reduction through real-time operational changes, avoidance of peak demand charges, and ongoing monitoring of energy use trends.

Energy Efficiency Building Codes, Option 2(c)

Development and implementation of energy efficiency building codes can be a key aspect of a comprehensive Tribal energy strategy. Many of the aspects of energy efficiency can fall directly under the governance of a Tribe. Once implemented, a Tribe can expect immediate and positive impacts. Typical returns can yield decreases in energy use/costs of 25-40%. Energy efficiency is consistent with Tribal values of wise and thoughtful use of resources.

The Tribe can consider adopting an informal or formal approach to energy efficiency building and design. An informal approach would consist of developing a Design Review Committee that steered project architects toward and promoted energy efficiency design by referencing model codes and green building standards in pre-design. A more formal approach would consist of developing and adopting formal energy efficiency building codes that included administrative processes for application, review, inspection, and enforcement.

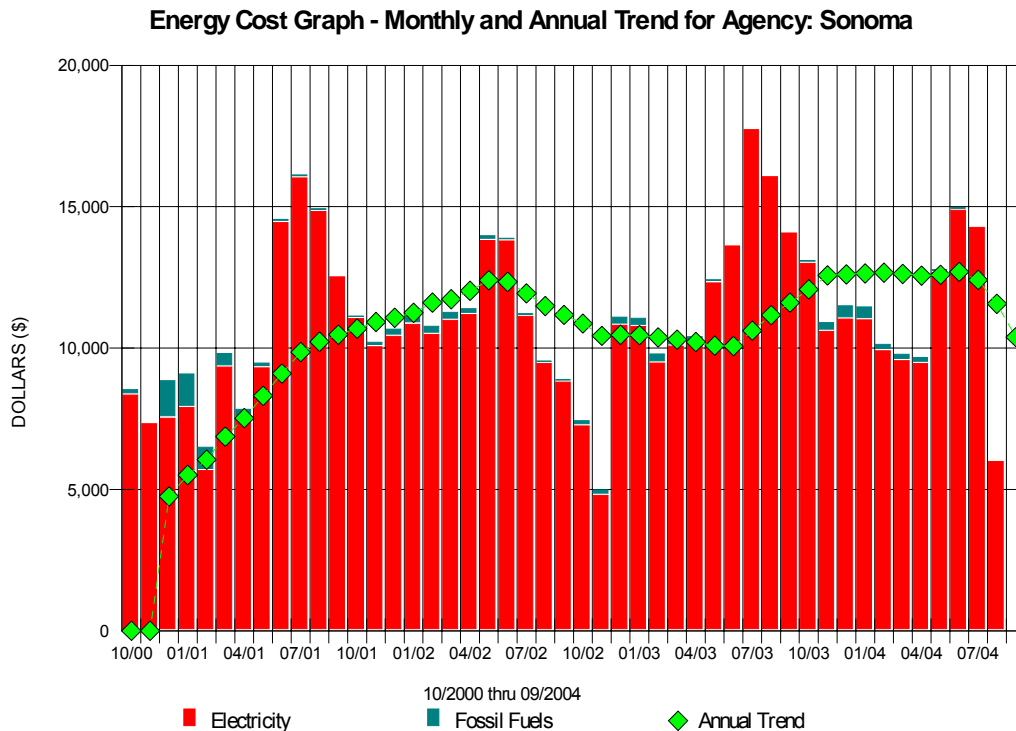


Figure 3a. Sample Energy Accounting Software Report

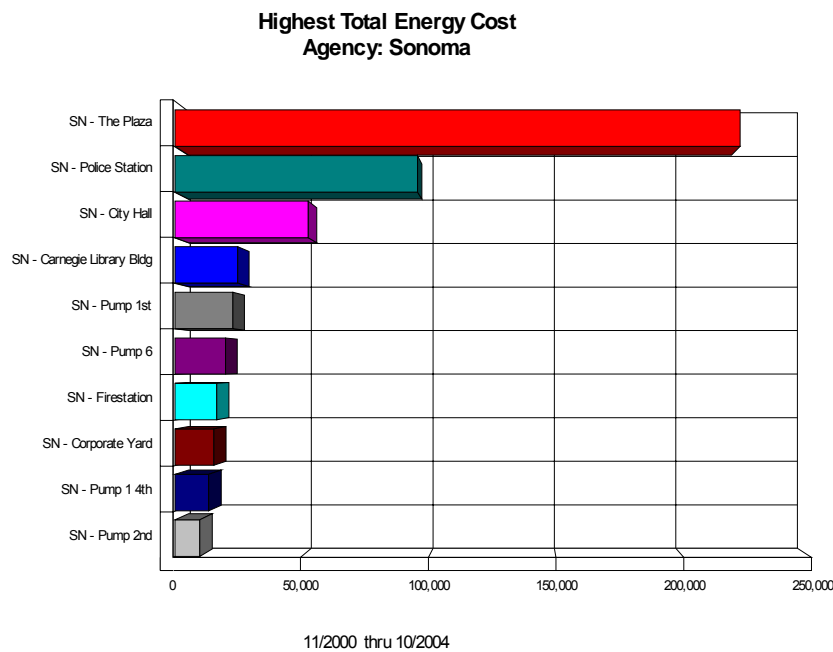


Figure 3b. Sample Energy Accounting Software Report

Given the level of energy directly utilized by the Tribe and anticipated development activity being contemplated by the Tribe formal energy efficiency codes would be appropriate for the Tribe. Implementation of the code is intended as a thoughtful approach when utilizing increasingly expensive energy resources and not intended to prevent the ability of a Tribe to conduct economic development activities.

Appendix A provides further detail, and insight about existing Energy Efficiency Building Code models.

Integration of WAPA Allocation, Option 5(b)

As the Tribe is considering how and whether to form some Tribal utility structure, it will be worthwhile to reflect upon the options discussed in this document and recommendations as decisions are formed with respect to next-step options. It has become clear that the Agua Caliente Tribal government has already intuitively understood that formation of a utility is one way the Tribe can better control costs and to protect and exercise its sovereign status, as well as provide critical electrical infrastructure. As the Tribe has moved forward with its strategic energy plan, other issues have presented themselves, such as its recent notification that it is eligible for the receipt of federal preference power. To further understand how that power can be utilized, it is important to understand the background and requirements pertaining to Tribal preference power.

The Federal Power Marketing Administrations (PMAs), including Western Area Power Administration with presence in California and 15 other Western states, define Indian Tribes as “preference customers” eligible to receive cost-based hydroelectric power from federally owned

dams in the Western United States. The federal PMAs have required that Tribes, or any “preference customers”, who wish to receive power allocations generally need to form utilities to receive physical power. In recent years, the Western Area Power Administration has also recently determined that Tribes who are not physically capable of receiving power could instead receive a pass-through energy credit. However, a pass-through credit is usually dependent on the ability to pass through another preference customer and/or is subject to all of the transmission and distribution “costs” set by the pass-through utility. For purposes of receiving federal power allocations directly, the federal PMAs have general “standards for service” which include requirements that preference customers be organized such that they:

- 1) are legally formed in accordance with local, state, Federal or Tribal laws,
- 2) own a distribution system and are ready, willing and able to take physical power within a reasonable period of time,
- 3) have a general utility responsibility within the defined service area,
- 4) demonstrate the financial ability to pay for the Federal power they purchase,
- 5) have adequate utility operations and structure, and
- 6) are able to purchase power in wholesale amounts.

Utility service area(s) can be any area(s) that a Tribal government or its appropriate instrumentality identifies as a set-apart franchised area. In identifying those loads which are of particular or priority interest to be served, the Tribe should conduct an analysis of existing loads from a physical and economic standpoint. If a focused Tribal utility effort is found worthwhile to pursue, a subsequent overlay analysis should also be initiated to determine strategic timing and long-term service plans. A challenging issue which will be analyzed during this effort should also include a negotiations plan to acquire any required intermediary transmission service.

As the Tribe is entering into the engineering phase of new Tribal projects, there is a window of opportunity for the Tribe to strategically consider its position related to new transmission and distribution facilities. Balancing the interests of and relationship with the incumbent utility is necessary. Although there is certain federal recourse in compelling transmission service, focusing on creating a win-win relationship is usually an easier and more fruitful path. In summary, the Tribe stands to derive great benefit by integrating consideration of its federal preference power allocation into the options discussed in this document, thereby optimizing the overarching Strategic Energy Plan.

Community Choice Aggregation, Option 5(c)

Community Choice Aggregation (CCA) is a provision of California law that allows local governments to aggregate the electric loads of electric service customers within their jurisdictional boundaries. Passed under Assembly Bill 117, the legislation qualifies California cities, counties, or city and county Joint Powers Authorities as eligible local governments to implement such aggregation programs to facilitate the purchase and sale of electricity. The local government would become a Community Choice Aggregator (“Aggregator”) to procure electric energy for residents and businesses within a community. The Aggregator would be responsible for operating the CCA program, either by performing the functions necessary for program operations utilizing its own employees or by contracting out operations to one or more third-party operators or energy services providers.

Within the context of CCA, “*electricity*” means the electric energy commodity only. CCA’s enabling legislation requires local utilities, such as SCE, to provide electricity delivery over its existing distribution system and provide end-consumer metering, billing, collection and all traditional retail customer services. Accordingly, the infrastructure requirements of the CCA program do not include any electric transmission or distribution related facilities to serve CCA retail loads. SCE would be required to provide delivery services to CCA customers under the same terms and conditions as provided to other of its customers.

A local government that implements a CCA program would not own the electric distribution system within the City. Rather, the local government would act as the “Aggregator” and would own or procure electric power from the wholesale markets, either through ownership of resources, market purchases, or through a partner on behalf of the customers that choose to aggregate their loads.

CCA can potentially offer significant benefits to the Tribe, such as local control over the energy resources utilized by the community, the ability to provide electricity to customers at a lower overall cost, and a greater use of renewable energy. The Aggregator may choose to accrue savings directly to its CCA customers through lower electric bills or utilize savings to provide enhanced services to its constituents. Cost savings can be primarily attributed to:

- » Lower financing costs for generation (e.g., tax-free revenue bonds)
- » No investors to pay, unlike the investor-owned utilities
- » No income taxes, unlike utilities

Because the Tribe is not a city or a county and so, does not possess the statutory authority to implement a CCA program, a local government partner is essential. However, cities and/or counties typically lack the specialized staff and organizational core competencies to implement and operate a CCA. Moreover, city and county governance structures (city councils/county boards of supervisors) employ rigid governance processes, have lengthy decision cycles subject to political pressures, and are often hampered by inflexible labor and contracting practices. In other regions, non-city/county entities will provide CCA operational support.

The Tribe already possesses significant capabilities to understand and manage energy resources including successfully operating generation facilities and performing energy procurement (natural gas contracts). The Tribe is a leading member of the community and values its good relations with city and county local governments. As the Agua Caliente consider its energy related future, its options should include leveraging regional strengths and relationships by planning, implementing and operating a CCA on behalf of city and county jurisdictions geographically contiguous to Tribal lands.

Further detail about CCA and the full text of Chapter 838 of Assembly Bill 117 are contained in Appendix B.

The Strategic Plan: Recommended Actions

The options discussed in the previous section are believed by Red Mountain to fit with the goals expressed by the Tribe, the newly formed Energy Vision, and the decision filters mutually agreed upon by Tribal staff and the consulting team. With recognition that practical limitations on time and resources preclude the Tribe from executing all of the alternatives at once, it is necessary to consider prioritization of the options and the timeframes in which they should be considered.

The basis for prioritization included factors such as potential for the greatest impact/value, possible need for further analysis, and the complexity or ease of implementation. Similarly, appropriate timeframes included factors such as requisite lead times, study periods, and/or monitoring of ongoing business issues and current events that may be relevant to the efficacy of particular options. With these factors in mind, the recommended actions for (i) near-term initiation/execution, (ii) further study/longer-term initiation/execution, and (iii) continued monitoring are listed below.

Actions for Near-Term Initiation/Execution

Recommendation #1: Utility Organization

Red Mountain recommends the Tribe pursue formation of a utility organization that is “scalable”, and provides for future consideration of ownership and operation of utility infrastructure. Such an option would be exercised if and only if Agua Caliente electrical infrastructure ownership and operation are warranted in the future.

The EIC should recommend to Council that it begin evaluation and develop plans to establish an Agua Caliente utility organization. The organization could be established as an entity of the Tribe and initially take the form of an oversight and coordination body, with the power to ultimately migrate its authority to ownership and operation of electrical infrastructure and other utility services in the future, if it chooses to do so. Red Mountain believes it is possible to achieve the goals of reduced energy costs and improved reliability through means other than full-blown ownership and operation of assets, and at far less cost, risk, and complexity of execution.

Evaluation and planning steps should address:

- Tribal human resources (e.g. – existing EIC personnel and/or an appointed task force or working group) to lead, analyze and plan utility organization development;
- Funding mechanisms, which may include government grants and/or Tribal resources.
- Evaluation of jurisdictional authority and privileges;
- A staffing and human capacity plan;
- A financial plan for operational support (e.g. – determination of whether the authority will be a cost center, or sustain itself via revenues and/or savings streams);
- Establishment of near-term and long-term goals and matters of oversight;
- Definition of the utility organization’s ultimate structural state and level of jurisdiction.

The initial oversight committee or task force should set specific milestones and timelines. Specific matters that should be under the purview of the utility organization should include, but not be limited to:

- Establishing standards of utility service, which would form the basis of the utility organization's initial oversight activities;
- Oversight and management of the Tribe's WAPA allocation;
- Evaluation of the potential for utilizing CCA as a means to structure a power generation portfolio, including identification of potential local governments who may be eligible, willing, and beneficial as partners to act as lead entity and "Aggregator" (see Appendix B for further information about local governments' roles).

Recommendation #2: WAPA Allocation

Red Mountain recommends the Tribe move forward to evaluate options for optimizing its recently awarded federal power allocation.

The EIC should begin efforts to evaluate the Tribe's options for optimizing its recently awarded discounted federal power allocation. The WAPA allocation could be utilized in a variety of ways, all of which would provide value to Agua Caliente. These options include delivery to a single Agua Caliente customer; development of a crediting agreement with its existing electric utility; development of an agreement with another nearby Tribe that could take delivery of the power and credit Agua Caliente for a portion of the realized value; or creation of an organization that could take delivery of the power at some future point.

Evaluation and planning steps would include:

- Review of the recently completed load analysis to determine which customer loads could effectively utilize the potential credits;
- Calculation of transmission and distribution costs to deliver power to the SCE system serving Agua Caliente, as well as to selected Agua Caliente customers, and/or any power hub trade scenarios that would enable exchange of preference power;
- Analysis of future Agua Caliente development to determine if any planned development and infrastructure could accommodate the delivery systems required to be considered a "preference" customer;
- Development of negotiation strategies with SCE and the California Independent System Operator (CAISO);
- Contact with nearby Tribal utilities to ascertain level of interest in taking delivery of Agua Caliente's power allocation in return for appropriate compensation.

Recommendation #3: Energy Management Goals

Red Mountain recommends the Tribe undertake specific efforts to achieve reductions in energy costs, leverage available funding and incentives, and build recognition of the importance and value created through effective energy management.

The EIC should recommend to Council that an energy management initiative be established, with assigned responsibilities directed to appropriate staff. The initiative should define specific efforts to achieve reductions in energy costs, and exploit opportunities to leverage energy efficiency programs via available funding and incentives. Recommended measurements should be established, with specific goals sets for annual improvements. Measurements could take the form of a percentage decrease in energy use, or energy costs, or specify dollar energy savings targets.

Evaluation and planning steps would include:

- Identification of energy software options
- Selection and implementation of best-fit package
- Review of the recently completed load analysis to identify energy management target areas and cost/benefit analysis of options such as advanced metering and remote monitoring & control;
- Documentation of total annual energy efficiency surcharge expenditures and establishment of specific targets to recoup the total expenditures (or more) through SCE program incentives;
- Development and adoption of energy efficiency procurement policies;
- Evaluation of opportunities for altered work schedules among service (cleaning, maintenance, plant care, etc.) crews;
- Development of communications to support the energy management initiative.

Recommendation #4: Renewable Energy Generation

Red Mountain recommends the Tribe continue its participation in the SWTEC feasibility studies, consider on-Reservation solar facilities as a possible project for SWTEC consideration, and pursue near term opportunities to conduct a pilot solar project at the Indian Canyons Trading Post in Palm Canyon.

Agua Caliente should continue to consider both small and large scale renewable energy generation opportunities through its ongoing participation in the Southwest Tribal Energy Consortium (SWTEC) project currently underway, which is funded by a Department of Energy grant. Participation in the effort allows Agua Caliente to:

- Leverage the knowledge and involvement of other nearby tribes with similar interests without a significant investment in personnel or consultants;
- Maintain up-to-date knowledge of renewable energy technology applications;
- Consider on-Reservation renewable energy projects without cost or risk to Agua Caliente.

SWTEC is currently evaluating potential projects on member Reservations for further study, and will be identifying a specific project target this fall.

Further, the Tribe has completed a feasibility study for a solar hybrid project at the Indian Canyons Trading Post. The project contemplates the installation of solar photovoltaic panels mounted upon shaded parking structures to power the facility and thereby replace the existing

propane generators that currently supply the off-grid facility. Such a project could be supported by a Bureau of Indian Affairs MAPs (Minerals Assessment Program) grant (a new round of proposals is currently being solicited with a due date of December 15, 2006), and could serve as an important means of gaining operational experience with solar facilities at a smaller, low-risk scale.

Actions for Further Study/Longer-Term Initiation

Recommendation #5: Energy Efficiency Building Codes

Red Mountain recommends the Tribe undertake long term efforts to achieve reductions in energy costs, through establishment and adoption of energy efficient building codes.

The newly established Agua Caliente utility organization should lead efforts to evaluate, select/develop, adopt, and implement an Energy Efficiency Code applicable to the construction of all new Tribally-developed commercial facilities.

Evaluation and planning steps would include:

- Identification/review of existing applicable energy efficiency codes;
- Analysis of the costs/benefits of specific code adoption;
- Design of the code, implementation process, Measurement & Validation (M&V) protocol(s), and enforcement mechanisms;
- Designation of a Design & Review Committee;
- Development of communications to support energy efficiency code adoption.

Recommendation #6: Right of Way Documentation and Assessment

Red Mountain recommends Agua Caliente undertake a strategic initiative to document its existing rights-of-way, any existing or expiring agreements, and to establish a portfolio approach to future ROW asset management.

Agua Caliente lands are located in one of the most important and active energy corridors in the country. Multiple utility lines are located on and around reservation land, and can be considered an asset, from the perspective of energy delivery to meet Agua Caliente needs, paths for any potential Agua Caliente power exports, as well the financial value created by ROW agreements with utilities.

Evaluation and planning steps would include:

- Identification/summarization of existing ROW agreements and expirations
- Identification of relevant ROW valuation methodologies
- Calculation of ROW values per applicable valuation methodologies
- Identification of strategic opportunities created by existing or planned utility infrastructure

Actions for Continued/Future Monitoring

Recommendation #7: Energy Technology

Red Mountain recommends Agua Caliente maintain efforts to periodically consider investment opportunities in the areas of renewable energy generation, “clean tech”, energy efficiency, and other energy related ventures.

Agua Caliente has multiple advantages as it considers future investment vehicles. Given its location, interest in environmentally beneficial energy technologies, leadership in community and economic development, business acumen and capacity to contribute to the region’s overall prosperity, Agua Caliente is likely to continue to have access to multiple investment opportunities. The investment screening tools provided through this project can help the newly formed utility organization leadership, or other appropriate parties, screen and evaluate a wide variety of project and investment options that may be presented in the future.

Implementation and Timeline

Based upon the Tribal Council’s consideration of the recommendations contained in this report and the Council’s ensuing guidance, Staff will prepare detailed implementation plans and schedules for those options that Council decides to pursue.

Appendices

Appendix A: Energy Efficiency Building Code Models

Appendix B: Community Choice Aggregation: Assembly Bill 117, Chapter 838

Appendix C: Energy Option Evaluation Scores

Appendix A: Energy Efficiency Building Code Models

The following three models for energy efficiency codes were reviewed:

[Commercial: 10 CFR Parts 434 and 435](#)

[ANSI/ASHRAE/IESNA 90.1 - 2004](#)

[2000 IECC](#)

The ASHRAE 90.1 -1999 with current updates seem to be the most appropriate and flexible to implement within the Agua Caliente Band of Cahuilla Indians.

Many of the provisions of the Model Federal Code for Commercial Buildings will be found with ASHRAE, but implementation with ASHRAE has significant support for administration and enforcement. In fact, much of the baseline compliance standards within the federal model are based on ASHRAE 90.1 – 1989, the standard in effect at the time of the passage of the Energy Policy Act of 1992 which amended the previous Energy Conservation and Production Act. The model code 2000 IECC deals primarily with residential energy efficiency. It was not considered further as the context for energy efficiency for the Agua Caliente Band of Cahuilla Indians seem to fall within the real of commercial implementation.

The California Energy Commission has also developed and adopted energy efficiency standards that can be found in the document 2005 Building Energy Efficiency Standards for Residential and Nonresidential Buildings that could be referred to customizing any Tribal energy efficiency codes in the approach used to address various climate zones in California. As a model it is less appropriate unless one is considering including residential and smaller commercial buildings.

As a focused document the ASHRAE 90.1 – 2004 standard seems more appropriate as the 85% plus energy load of the Tribe comes from the hotel and casinos. And, it seems probable that a majority of the new energy load will come from development/redevelopment and construction of similar type projects.

ASHRAE 90.1 - 2004

Purpose:

The purpose of this standard is to provide minimum requirements for the energy-efficient design of buildings except low-rise residential buildings

Scope:

- if heated by a heating system with an output capacity of greater than or equal to 3.4 btu/h per square foot
- if cooled by a cooling system with an output capacity of greater than or equal to 5 btu/h per square foot
- Applicability
- New Build
- Additions
- Alterations
- Guidance

- Administration and Enforcement
- Building Envelope
- HVAC
- SWH
- Power
- Lighting
- Other Equipment
- Energy Cost Budget Method
- Mandatory provisions on major systems
- Envelope
- Lighting
- Mechanical
- HVAC
- SWH
- Multiple paths to compliance
- Prescriptive Option
- Trade Off Option
- Energy Cost Budget

Implementation:

ASHRAE 90.1 – 2004 is specifically written to address commercial buildings above three stories in height with specific parameter based on heating or cooling output. Building not falling within the scope of ASHRAE 90.1 – 2004 can still be approached using the code on a prescriptive basis. ASHRAE 90.1 – 2004, can be implemented on in whole in or in part depending upon the needs of the Tribe.

Within the code itself, there are exemption provisions. Again, these can be customized to the needs of the Tribe. It is recommended that the codes be implemented on a trial basis so that the Tribe can determine the administrative effort for implementation, enforcement, and compliance. Initially, a third-party may be contracted to assist in this effort. In-house personnel may want to become familiar with the code in order to communicate to various projects teams the need to comply with the implemented standard.

The process varies very little from compliance with other construction codes such as the Universal Building Codes adopted in whole and in part by numerous Tribal governments. Again, some Tribal governments have developed internal capacity and others have contracted third-parties to handle all or part of code compliance based on the needs and development activity of the Tribe.

Again, the code is intended to be flexible enough with specific exemptions to allow for implementation on a wide-scale while allowing for exemptions that may be impractical for energy efficiency at this standard. Standard exemptions include:

Building with too little heating or cooling,
Single-family, multifamily of three stories or less, manufactured or modular homes,
Buildings that don't use electricity or fossil fuel, and
Equipment and portions of building systems that use energy primarily for industrial, manufacturing, or commercial purposes

When designing a code for adoption the Tribe can utilize a model code as developed by ASHRAE or develop its own customized code utilizing base information and guidelines developed by the organizations and institutions listed below. Many of the model codes utilize research and performance information documented by the groups listed below. Because of the limited resources available to the Tribe it would be more appropriate to utilize a model such as ASHRAE and use the following groups as a resource for areas that the Tribe would like to revise base on the specific needs and goals of a Tribal energy efficiency code. Useful organizational references include:

AIR-CONDITIONING AND REFRIGERATION INSTITUTE

Available from: Air-Conditioning and Refrigeration Institute
4301 North Fairfax Drive, Suite 425
Arlington, Virginia 22203
(703) 524-8800
www.ari.org

AIR CONDITIONING CONTRACTORS OF AMERICA

Air Conditioning Contractors of America, Inc.
2800 Shirlington Road, Suite 300
Arlington, VA 22206
(703) 575-4477
www.acca.org

AMERICAN NATIONAL STANDARDS INSTITUTE

American National Standards Institute
25 West 43rd Street, 4th Floor
New York, NY 10036
(212) 642-4900
[www.ansi.org](http://www ansi.org)

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100 Barr Harbor Drive
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www.astm.org

CALIFORNIA BUILDING STANDARDS COMMISSION

2001 California Electrical Code
Available from: California Building Standards Commission
2525 Natomas Park Drive, Suite 130
Sacramento, CA 95833-2936
(916) 263-0916
www.bsc.ca.gov

CALIFORNIA ENERGY COMMISSION

California Energy Commission
1516 Ninth Street
Sacramento, CA 95814
(916) 654-5106 or
(800) 772-3300 (in California)
<http://www.energy.ca.gov/title24>

CALIFORNIA DEPARTMENT OF CONSUMER AFFAIRS

California Department of Consumer Affairs
Bureau of Home Furnishings and Thermal Insulation
3485 Orange Grove Ave
North Highlands, CA 95660
(916) 574-2041
www.dca.ca.gov

CODE OF FEDERAL REGULATIONS

21 Code of Federal Regulations, Section 1002.2 (1996)
47 Code of Federal Regulations, Parts 2 and 15 (1996)

Department of Energy

Washington, DC 20585

www.doe.gov

COOLING TOWER INSTITUTE

Cooling Tower Institute
530 Wells Fargo, Suite 218
Post Office Box 73383
Houston, Texas 77273
(281) 583-4087
www.cti.org

COOL ROOF RATING COUNCIL

CRRC-1 Product Rating Program Manual (2002)
Available from: Cool Roof Rating Council
1738 Excelsior Avenue
Oakland, CA 94602
(866) 465-2523
www.coolroofs.org

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Appendix B: Community Choice Aggregation: Assembly Bill 117, Chapter 838

What is CCA?

Community Choice Aggregation (CCA) is a provision of California law that allows local governments to aggregate the electric loads of electric service customers within their jurisdictional boundaries. Passed under Assembly Bill 117, the legislation qualifies California cities, counties, or city and county Joint Powers Authorities as eligible local governments to implement such aggregation programs to facilitate the purchase and sale of electricity. The local government would become a Community Choice Aggregator (“Aggregator”) to procure electric energy for residents and businesses within a community. The Aggregator would be responsible for operating the CCA program, either by performing the functions necessary for program operations utilizing its own employees or by contracting out operations to one or more third-party operators or energy services providers.

Within the context of CCA, “*electricity*” means the electric energy commodity only. CCA’s enabling legislation requires local utilities such as SCE to provide electricity delivery over its existing distribution system and provide end-consumer metering, billing, collection and all traditional retail customer services (i.e., call centers, outage restoration, extension of new service). Accordingly, the infrastructure requirements of the CCA program do not include any electric transmission or distribution related facilities to serve CCA retail loads. SCE must provide delivery services to CCA customers under the same terms and conditions as provided to other of its customers.

It is important to distinguish an Aggregator from municipal utilities and from energy service providers as each of these entities provides different services, has different responsibilities, and operates under different regulatory frameworks. A local government that implements a CCA program does not become a municipal utility in the manner of the Los Angeles Department of Water and Power or the Sacramento Municipal Utility District, which own and operate transmission and distribution systems. A critical distinguishing factor is that the Aggregator would not own the electric distribution system within the City. Rather, it would own or procure electric power from the wholesale markets, either through ownership of resources, market purchases, or through a partner on behalf of the customers that choose to aggregate their loads. The local investor owned utility (PG&E, SCE, or SDG&E) would then be required to deliver the electric energy to the end-use customer across its transmission and distribution facilities. In this sense, an Aggregator is similar to an electricity service provider that sells electricity to direct access customers. However, there are important differences between CCA and direct access, and these two programs will operate under different sets of rules established by the CPUC.

Customers of the CCA will pay the same charges for delivery (transmission and distribution) as customers that remain as full service, “bundled” customers of SCE. These delivery charges represent approximately one half of the typical household’s monthly electric bill. The Aggregator will establish rates for the generation services it provides to CCA customers, and these customers will no longer pay SCE for generation services. However, SCE will be authorized to assess a surcharge for certain of its generation related costs that might otherwise be shifted to its remaining bundled service customers. This surcharge is known as the “cost responsibility surcharge”, and it will be regulated by the CPUC. The cost responsibility surcharge is discussed in greater detail in Section 4.2.2.

By law, SCE will perform all metering and billing for CCA customers. SCE will collect the Aggregator's charges from CCA customers and transfer the funds collected to the Aggregator in the monthly billing process. To a large extent SCE's costs of providing metering, billing and customer services are included in their existing delivery charges. However, the utilities have asserted that CCA programs will cause additional costs related to metering, billing and customer services, and they have requested the CPUC to authorize additional charges to be assessed on Aggregators or CCA customers. This and other issues in the CPUC Rulemaking are discussed in Section 2.5.

Legal and Regulatory Authority

A CCA program for electric customers is governed by the Community Choice Aggregation legislation (AB 117, Chapter 838, September 24, 2002¹). A local government could become a Aggregator for electric utility generation by developing an Implementation Plan, and then having this plan approved by the CPUC. AB 117 offers flexibility in that it is an "opt-out" program rather than an "opt-in" program. This would allow the City to sign up customers willing to switch from SCE generation service to CCA service without the necessity of developing an active marketing effort to lure customers. Instead, the Aggregator would merely need to notify customers of the impending community choice aggregation program. Any customers that do not want to participate in the program would be required to notify the Aggregator of their election to opt-out within a specified amount of time.

AB 117 also requires full cooperation by the host investor owned utility in any CCA program implemented by the Aggregator. In this regard, AB 117 would require SCE to provide necessary load information and other important data and continue to provide transmission, distribution, metering, meter reading, billing and other essential customer services.

Implementation Process

If the Tribe chooses to move forward with a CCA proposal, a first step would involve the identification of a suitable neighboring local government that would act as the Aggregator and assume lead responsibility in filing a CCA plan. Based on positive response to overtures the Tribe makes to local governments for support of an initiative to evaluate, and; pending a positive evaluation, plan and implement a CCA program, the following subsequent steps should be taken:

1. Prepare a base case feasibility analysis for potential participating jurisdictions;
2. Assist participating jurisdictions to prepare and file an Implementation Plan with the CPUC (includes necessary resource plans, rate design, etc) – Participate in CPUC proceedings as required;
3. Pending approval of the regional CCA Implementation Plan:
 - a) Within 10 days after the Implementation Plan is filed, the CPUC will notify SCE (PUC Section 366.2(c)(6)).
 - b) Within 90 days after the Aggregator files an Implementation Plan the CPUC shall certify that it has received the Implementation plan, including any additional

¹ AB 117 became effective January 1, 2003. It amends Sections 218.3, 366, 394, and 394.25 of the Public Utilities Code and creates Sections 331.1, 366.2, and 381.1 to the same Code.

information necessary to determine a cost recovery mechanism. The Commission shall designate the earliest possible date for implementation of a CCA program (PUC Section 366.2(c)(7)).

- c) The Aggregator must offer the opportunity to purchase electricity to all residential customers within its political boundaries (PUC Section 266.2(b))
- d) SCE shall fully cooperate with the Aggregator, including providing appropriate billing, and electrical load data, in accordance with CPUC procedures (PUC Section 366.2(c)(9))
- e) The Aggregator must fully inform all customers of their right to opt-out of the CCA program and to continue to receive service as a bundled customer from SCE. All customers must be notified twice within two months or 60 days prior to the date of automatic enrollment. In addition, notification must continue for participating customers for at least two consecutive billing cycles after enrollment (PUC Section 366.2(c)(11),(13).
- f) Notification must contain the following information:
 - i. Customer will be automatically enrolled
 - ii. Each customer has the right to opt-out of the program without penalty
 - iii. The terms and conditions of CCA service (PUC Section 366.2(13)(A))
 - iv. The Aggregator may request the Commission to approve and order SCE to provide the customer notifications (PUC Section 366.2(13)(B));
- g) The Aggregator must register with the CPUC and may be required to provide additional information in order to verify compliance with rules for consumer protection and other procedures (PUC 366.2(c)(14)). At the time of registration, the Aggregator must post a bond or provide evidence of sufficient insurance to cover any reentry fees that may be imposed against it by the CPUC for involuntarily returning a customer to service of SCE (PUC Section 394.25(e));
- h) The Aggregator must notify SCE that CCA service will begin within 30 days (PUC Section 366.2(c)(15));
- i) Once notified, SCE shall transfer all applicable accounts to the new supplier within a 30-day period from the date of the close of their normally scheduled monthly metering and billing process (PUC Section 366.2(c)(16)), and;
- j) SCE shall recover from the Aggregator any costs reasonably attributable to the Aggregator, as determined by the CPUC (PUC Section 366.2(c)(17)).

Full Text of AB 177, Chapter 838

BILL NUMBER: AB 117: CHAPTERED BILL TEXT

CHAPTER 838
FILED WITH SECRETARY OF STATE SEPTEMBER 24, 2002
APPROVED BY GOVERNOR SEPTEMBER 24, 2002
PASSED THE ASSEMBLY AUGUST 29, 2002
PASSED THE SENATE AUGUST 28, 2002
AMENDED IN SENATE AUGUST 27, 2002
AMENDED IN SENATE AUGUST 5, 2002
AMENDED IN SENATE JUNE 19, 2002
AMENDED IN SENATE JUNE 5, 2002
AMENDED IN ASSEMBLY JANUARY 9, 2002

INTRODUCED BY Assembly Member Migden

JANUARY 22, 2001

An act to amend Sections 218.3, 366, 394, and 394.25 of, and to add Sections 331.1, 366.2, and 381.1 to, the Public Utilities Code, relating to public utilities.

LEGISLATIVE COUNSEL'S DIGEST

AB 117, Migden. Electrical restructuring: aggregation.

(1) Existing law, relating to transactions between electricity suppliers and end-use customers, authorizes various entities to aggregate electrical loads, and defines an "aggregator" as one of those entities that provides power supply services, including combining the loads of multiple end-use customers and facilitating the sale and purchase of electrical energy, transmission, and other services on behalf of the end-use customers.

This bill would authorize customers to aggregate their electrical loads as members of their local community with community choice aggregators, as defined. The bill would authorize a community choice aggregator to aggregate the electrical load of interested electricity consumers within its boundaries. The bill would require a community choice aggregator to file an implementation plan with the Public Utilities Commission in order for the commission to determine a cost-recovery mechanism to be imposed on the community choice aggregator to prevent a shifting of costs to an electrical corporation's bundled customers. The bill would require a retail end-use customer electing to purchase power from a community choice aggregator to pay specified amounts for Department of Water Resources costs and electrical corporation costs, as described. The bill would require the commission to prepare and submit to the Legislature, on or before January 1, 2006, a report on community choice aggregation. Because a violation of an order or decision of the commission is a crime, this bill would impose a state-mandated local program.

(2) Existing law requires the Public Utilities Commission to order certain electrical corporations to collect and spend certain funds for public benefit programs, including cost-effective energy efficiency and conservation programs.

The bill would require the commission, not later than July 15, 2003, to establish policies and procedures by which any party, including, but not limited to, a local entity that establishes a community choice aggregation program, may apply to become administrators for cost-effective energy efficiency and conservation programs. The bill would require the commission, if a community choice aggregator is not the administrator, to require the administrator of cost-effective energy efficiency and conservation programs to direct a proportional share of its approved energy efficiency program activities for which the community choice aggregator's customers are eligible, to the community choice aggregator's territory without regard to customer class. Under the bill, the commission would be authorized to order an adjustment to the share of energy efficiency program activities directed to a community aggregator's territory if necessary for an equitable and cost-effective allocation of program activities.

(3) Existing law defines "electric service provider" as an entity that offers electrical service to residential and small commercial customers, but not including an electrical corporation and requires these providers to register with the commission.

This bill would instead define "electric service provider" as an entity that offers electrical service to customers within the service territory of an electrical corporation, but not including an electrical corporation or a person employing cogeneration technology or producing electricity from other than conventional power sources, for its own use or the use of its tenants or an adjacent property and not for sale or transmission to others.

This bill would provide that, if a customer of an electric service provider or community choice aggregator is involuntarily returned to service provided by an electrical corporation, any reentry fees imposed on that customer are to be the obligation of the electric service provider or community choice aggregator, except as specified.

The bill would require the electric service provider or community choice aggregator, as a condition to its registration, to post a bond or demonstrate insurance sufficient to cover paying those reentry fees.

(4) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. Section 218.3 of the Public Utilities Code is amended to read:

218.3. "Electric service provider" means an entity that offers electrical service to customers within the service territory of an electrical corporation, as defined in Section 218, but does not include an entity that offers electrical service solely to service customer load consistent with subdivision (b) of Section 218, and does not include an electrical corporation, as defined in Section 218, or a public agency that offers electrical service to residential and small commercial customers within its jurisdiction, or within the service territory of a local publicly owned electric utility. "Electric service provider" includes the unregulated affiliates and subsidiaries of an electrical corporation, as defined in Section 218.

SEC. 2. Section 331.1 is added to the Public Utilities Code, to read:

331.1. For purposes of this chapter, "community choice aggregator" means any of the following entities, if that entity is not within the jurisdiction of a local publicly owned electric utility that provided electrical service as of January 1, 2003:

(a) Any city, county, or city and county whose governing board elects to combine the loads of its residents, businesses, and municipal facilities in a communitywide electricity buyers' program.

(b) Any group of cities, counties, or cities and counties whose governing boards have elected to combine the loads of their programs, through the formation of a joint powers agency established under Chapter 5 (commencing with Section 6500) of Division 7 of Title 1 of the Government Code.

SEC. 3. Section 366 of the Public Utilities Code is amended to read:

366. (a) The commission shall take actions as needed to facilitate direct transactions between electricity suppliers and end-use customers. Customers shall be entitled to aggregate their electrical loads on a voluntary basis, provided that each customer does so by a positive written declaration. If no positive declaration is made by a customer, that customer shall continue to be served by the existing electrical corporation or its successor in interest, except aggregation by community choice aggregators, accomplished pursuant to Section 366.2.

(b) Aggregation of customer electrical load shall be authorized by the commission for all customer classes, including, but not limited, to small commercial or residential customers. Aggregation may be accomplished by private market aggregators, special districts, or on any other basis made available by market opportunities and agreeable by positive written declaration by individual consumers, except aggregation by community choice aggregators, which shall be accomplished pursuant to Section 366.2.

SEC. 4. Section 366.2 is added to the Public Utilities Code, to read:

366.2. (a) (1) Customers shall be entitled to aggregate their electric loads as members of their local community with community choice aggregators.

(2) Customers may aggregate their loads through a public process with community choice aggregators, if each customer is given an opportunity to opt out of their community's aggregation program.

(3) If a customer opts out of a community choice aggregator's program, or has no community choice program available, that customer shall have the right to continue to be served by the existing electrical corporation or its successor in interest.

(b) If a public agency seeks to serve as a community choice aggregator, it shall offer the opportunity to purchase electricity to all residential customers within its jurisdiction.

(c) (1) Notwithstanding Section 366, a community choice aggregator is hereby authorized to aggregate the electrical load of interested electricity consumers within its boundaries to reduce transaction costs to consumers, provide consumer protections, and leverage the negotiation of contracts. However, the community choice aggregator may not aggregate electrical load if that load is served by a local publicly owned electric utility, as defined in subdivision (d) of Section 9604. A community choice aggregator may group retail electricity customers to solicit bids, broker, and contract for electricity and energy services for those customers. The community choice aggregator may enter into agreements for services to facilitate the sale and purchase of electricity and other related services. Those service agreements may be entered into by a single city or county, a city and county, or by a group of cities, cities and counties, or counties.

(2) Under community choice aggregation, customer participation may not require a positive written declaration, but all customers shall be informed of their right to opt out of the community choice aggregation program. If no negative declaration is made by a customer, that customer shall be served through the community choice aggregation program.

(3) A community choice aggregator establishing electrical load aggregation pursuant to this section shall develop an implementation plan detailing the process and consequences of aggregation. The implementation plan, and any subsequent changes to it, shall be considered and adopted at a duly noticed public hearing. The implementation plan shall contain all of the following:

- (A) An organizational structure of the program, its operations, and its funding.
- (B) Ratesetting and other costs to participants.
- (C) Provisions for disclosure and due process in setting rates and allocating costs among participants.
- (D) The methods for entering and terminating agreements with other entities.
- (E) The rights and responsibilities of program participants, including, but not limited to, consumer protection procedures, credit issues, and shutoff procedures.
- (F) Termination of the program.
- (G) A description of the third parties that will be supplying electricity under the program, including, but not limited to, information about financial, technical, and operational capabilities.

(4) A community choice aggregator establishing electrical load aggregation shall prepare a statement of intent with the implementation plan. Any community choice load aggregation established pursuant to this section shall provide for the following:

- (A) Universal access.
- (B) Reliability.
- (C) Equitable treatment of all classes of customers.
- (D) Any requirements established by state law or by the commission concerning aggregated service.

(5) In order to determine the cost-recovery mechanism to be imposed on the community choice aggregator pursuant to subdivisions (d), (e), and (f) that shall be paid by the customers of the community choice aggregator to prevent shifting of costs, the community choice aggregator shall file the implementation plan with the commission, and any other information requested by the commission that the commission determines is necessary to develop the cost-recovery mechanism in subdivisions (d), (e), and (f).

(6) The commission shall notify any electrical corporation serving the customers proposed for aggregation that an implementation plan initiating community choice aggregation has been filed, within 10 days of the filing.

(7) Within 90 days after the community choice aggregator establishing load aggregation files its implementation plan, the commission shall certify that it has received the implementation plan, including any additional information necessary to determine a cost-recovery mechanism. After certification of receipt of the implementation plan and any additional information requested, the commission shall then provide the community choice aggregator with its findings regarding any cost recovery that must be paid by customers of the community choice aggregator to prevent a shifting of costs as provided for in subdivisions (d), (e), and (f).

(8) No entity proposing community choice aggregation shall act to furnish electricity to electricity consumers within its boundaries until the commission determines the cost-recovery that must be paid by the customers of that proposed community choice aggregation program, as provided for in subdivisions (d), (e), and (f). The commission shall designate the earliest possible effective date for implementation of a community choice aggregation program, taking into consideration the impact on any annual procurement plan of the electrical corporation that has been approved by the commission.

(9) All electrical corporations shall cooperate fully with any community choice aggregators that investigate, pursue, or implement community choice aggregation programs. Cooperation shall include providing the entities with appropriate billing and electrical load data, including, but not limited to, data detailing electricity needs and patterns of usage, as determined by the commission, and in accordance with procedures established by the commission. Electrical corporations shall continue to provide all metering, billing, collection, and customer service to retail customers that participate in community choice aggregation programs. Bills sent by the

electrical corporation to retail customers shall identify the community choice aggregator as providing the electrical energy component of the bill. The commission shall determine the terms and conditions under which the electrical corporation provides services to community choice aggregators and retail customers. (10) (A) A city, county, or city and county that elects to implement a community choice aggregation program within its jurisdiction pursuant to this chapter shall do so by ordinance.

(B) Two or more cities, counties, or cities and counties may participate as a group in a community choice aggregation pursuant to this chapter, through a joint powers agency established pursuant to Chapter 5 (commencing with Section 6500) of Division 7 of Title 1 of the Government Code, if each entity adopts an ordinance pursuant to subparagraph (A).

(11) Following adoption of aggregation through the ordinance described in paragraph (10), the program shall allow any retail customer to opt out and to continue to be served as a bundled service customer by the existing electrical corporation, or its successor in interest. Delivery services shall be provided at the same rates, terms, and conditions, as approved by the commission, for community choice aggregation customers and customers that have entered into a direct transaction where applicable, as determined by the commission.

Once enrolled in the aggregated entity, any ratepayer that chooses to opt out within 60 days or two billing cycles of the date of enrollment may do so without penalty and shall be entitled to receive default service pursuant to paragraph (3) of subdivision (a). Customers that return to the electrical corporation for procurement services shall be subject to the same terms and conditions as are applicable to other returning direct access customers from the same class, as determined by the commission, as authorized by the commission pursuant to this code or any other provision of law. Any reentry fees to be imposed after the opt-out period specified in this paragraph, shall be approved by the commission and shall reflect the cost of reentry. The commission shall exclude any amounts previously determined and paid pursuant to subdivisions (d), (e), and (f) from the cost of reentry.

(12) Nothing in this section shall be construed as authorizing any city or any community choice retail load aggregator to restrict the ability of retail electricity customers to obtain or receive service from any authorized electric service provider in a manner consistent with law.

(13) (A) The community choice aggregator shall fully inform participating customers at least twice within two calendar months, or 60 days, in advance of the date of commencing automatic enrollment. Notifications may occur concurrently with billing cycles. Following enrollment, the aggregated entity shall fully inform participating customers for not less than two consecutive billing cycles. Notification may include, but is not limited to, direct mailings to customers, or inserts in water, sewer, or other utility bills. Any notification shall inform customers of both of the following:

(i) That they are to be automatically enrolled and that the customer has the right to opt out of the community choice aggregator without penalty.

(ii) The terms and conditions of the services offered.

(B) The community choice aggregator may request the commission to approve and order the electrical corporation to provide the notification required in subparagraph (A). If the commission orders the electrical corporation to send one or more of the notifications required pursuant to subparagraph (A) in the electrical corporation's normally scheduled monthly billing process, the electrical corporation shall be entitled to recover from the community choice aggregator all reasonable incremental costs it incurs related to the notification or notifications. The electrical corporation shall fully cooperate with the community choice aggregator in determining the feasibility and costs associated with using the electrical corporation's normally scheduled monthly billing process to provide one or more of the notifications required pursuant to subparagraph (A).

(C) Each notification shall also include a mechanism by which a ratepayer may opt out of community choice aggregated service. The opt out may take the form of a self-addressed return postcard indicating the customer's election to remain with, or return to, electrical energy service provided by the electrical corporation, or another straightforward means by which the customer may elect to derive electrical energy service through the electrical corporation providing service in the area.

(14) The community choice aggregator shall register with the commission, which may require additional information to ensure compliance with basic consumer protection rules and other procedural matters.

(15) Once the community choice aggregator's contract is signed, the community choice aggregator shall notify the applicable electrical corporation that community choice service will commence within 30 days.

(16) Once notified of a community choice aggregator program, the electrical corporation shall transfer all applicable accounts to the new supplier within a 30-day period from the date of the close of their normally scheduled monthly metering and billing process.

(17) An electrical corporation shall recover from the community choice aggregator any costs reasonably attributable to the community choice aggregator, as determined by the commission, of implementing this section, including, but not limited to, all business and information system changes, except for transaction-based costs as described in this paragraph. Any costs not reasonably attributable to a community choice aggregator shall be recovered from ratepayers, as determined by the commission. All reasonable transaction-based costs of notices, billing, metering, collections, and customer communications or other services provided to an aggregator or its customers shall be recovered from the aggregator or its customers on terms and at rates to be approved by the commission.

(18) At the request and expense of any community choice aggregator, electrical corporations shall install, maintain and calibrate metering devices at mutually agreeable locations within or adjacent to the community aggregator's political boundaries. The electrical corporation shall read the metering devices and provide the data collected to the community aggregator at the aggregator's expense. To the extent that the community aggregator requests a metering location that would require alteration or modification of a circuit, the electrical corporation shall only be required to alter or modify a circuit if such alteration or modification does not compromise the safety, reliability or operational flexibility of the electrical corporation's facilities. All costs incurred to modify circuits pursuant to this paragraph, shall be born by the community aggregator.

(d) (1) It is the intent of the Legislature that each retail end-use customer that has purchased power from an electrical corporation on or after February 1, 2001, should bear a fair share of the Department of Water Resources' electricity purchase costs, as well as electricity purchase contract obligations incurred as of the effective date of the act adding this section, that are recoverable from electrical corporation customers in commission-approved rates. It is further the intent of the Legislature to prevent any shifting of recoverable costs between customers.

(2) The Legislature finds and declares that this subdivision is consistent with the requirements of Division 27 (commencing with Section 80000) of the Water Code and Section 360.5, and is therefore declaratory of existing law.

(e) A retail end-use customer that purchases electricity from a community choice aggregator pursuant to this section shall pay both of the following:

(1) A charge equivalent to the charges that would otherwise be imposed on the customer by the commission to recover bond related costs pursuant to any agreement between the commission and the Department of Water Resources pursuant to Section 80110 of the Water Code, which charge shall be payable until any obligations of the Department of Water Resources pursuant to Division 27 (commencing with Section 80000) of the Water Code are fully paid or otherwise discharged.

(2) Any additional costs of the Department of Water Resources, equal to the customer's proportionate share of the Department of Water Resources' estimated net unavoidable electricity purchase contract costs as determined by the commission, for the period commencing with the customer's purchases of electricity from the community choice aggregator, through the expiration of all then existing electricity purchase contracts entered into by the Department of Water Resources.

(f) A retail end-use customer purchasing electricity from a community choice aggregator pursuant to this section shall reimburse the electrical corporation that previously served the customer for all of the following:

(1) The electrical corporation's unrecovered past undercollections for electricity purchases, including any financing costs, attributable to that customer, that the commission lawfully determines may be recovered in rates.

(2) Any additional costs of the electrical corporation recoverable in commission-approved rates, equal to the share of the electrical corporation's estimated net unavoidable electricity purchase contract costs attributable to the customer, as determined by the commission, for the period commencing with the customer's purchases of electricity from the community choice aggregator, through the expiration of all then existing electricity purchase contracts entered into by the electrical corporation.

(g) (1) Any charges imposed pursuant to subdivision (e) shall be the property of the Department of Water Resources. Any charges imposed pursuant to subdivision (f) shall be the property of the electrical corporation. The commission shall establish mechanisms, including agreements with, or orders with respect to, electrical corporations necessary to ensure that charges payable pursuant to this section shall be promptly remitted to the party entitled to payment.

(2) Charges imposed pursuant to subdivisions (d), (e), and (f) shall be nonbypassable.

(h) Notwithstanding Section 80110 of the Water Code, the commission shall authorize community choice aggregation only if the commission imposes a cost-recovery mechanism pursuant to subdivisions (d), (e), (f), and (g). Except as provided by this subdivision, this section shall not alter the suspension by the commission of direct purchases of electricity from alternate providers other than by community choice aggregators, pursuant to Section 80110 of the Water Code.

(i) (1) The commission shall not authorize community choice aggregation until it implements a cost-recovery mechanism, consistent with subdivisions (d), (e), and (f), that is applicable to customers that elected to purchase electricity from an alternate provider between February 1, 2001, and January 1, 2003.

(2) The commission shall not authorize community choice aggregation until it submits a report certifying compliance with paragraph (1) to the Senate Energy, Utilities and Communications Committee, or its successor, and the Assembly Committee on Utilities and Commerce, or its successor.

(3) The commission shall not authorize community choice aggregation until it has adopted rules for implementing community choice aggregation.

(j) The commission shall prepare and submit to the Legislature, on or before January 1, 2006, a report regarding the number of community choice aggregations, the number of customers served by community choice aggregations, third party suppliers to community choice aggregations, compliance with this section, and the overall effectiveness of community choice aggregation programs.

SEC. 5. Section 381.1 is added to the Public Utilities Code, to read:

381.1. (a) No later than July 15, 2003, the commission shall establish policies and procedures by which any party, including, but not limited to, a local entity that establishes a community choice aggregation program, may apply to become administrators for cost-effective energy efficiency and conservation programs established pursuant to Section 381. In determining whether to

approve an application to become administrators, the commission shall consider the value of program continuity and planning certainty and the value of allowing competitive opportunities for potentially new administrators. The commission shall weigh the benefits of the party's proposed program to ensure that the program meets the following objectives:

(1) Is consistent with the goals of the existing programs established pursuant to Section 381.

(2) Advances the public interest in maximizing cost-effective electricity savings and related benefits.

(3) Accommodates the need for broader statewide or regional programs.

(b) All audit and reporting requirements established by the commission pursuant to Section 381 and other statutes shall apply to the parties chosen as administrators under this section.

(c) If a community choice aggregator is not the administrator of energy efficiency and conservation programs for which its customers are eligible, the commission shall require the administrator of cost-effective energy efficiency and conservation programs to direct a proportional share of its approved energy efficiency program activities for which the community choice aggregator's customers are eligible, to the community choice aggregator's territory without regard to customer class. To the extent that energy efficiency and conservation programs are targeted to specific locations to avoid or defer transmission or distribution system upgrades, the targeted expenditures shall continue irrespective of whether the loads in those locations are served by an aggregator or by an electrical corporation. The commission shall also direct the administrator to work with the community choice aggregator, to provide advance information where appropriate about the likely impacts of energy efficiency programs and to accommodate any unique community program needs by placing more, or less, emphasis on particular approved programs to the extent that these special shifts in emphasis in no way diminish the effectiveness of broader statewide or regional programs. If the community choice aggregator proposes energy efficiency programs other than programs already approved for implementation in its territory, it shall do so under established commission policies and procedures. The commission may order an adjustment to the share of energy efficiency program activities directed to a community aggregator's territory if necessary to ensure an equitable and cost-effective allocation of energy efficiency program activities.

SEC. 6. Section 394 of the Public Utilities Code is amended to read:

394. (a) As used in this section, "electric service provider" means an entity that offers electrical service to customers within the service territory of an electrical corporation, but does not include an electrical corporation, as defined in Section 218, does not include an entity that offers electrical service solely to serve customer load consistent with subdivision (b) of Section 218, and does not include a public agency that offers electrical service to residential and small commercial customers within its jurisdiction, or within the service territory of a local publicly owned electric utility. "Electric service provider" includes the unregulated affiliates and subsidiaries of an electrical corporation, as defined in Section 218.

(b) Each electric service provider shall register with the commission. As a precondition to registration, the electric service provider shall provide, under oath, declaration, or affidavit, all of the following information to the commission:

(1) Legal name and any other names under which the electric service provider is doing business in California.

(2) Current telephone number.

(3) Current address.

(4) Agent for service of process.

(5) State and date of incorporation, if any.

(6) Number for a customer contact representative, or other personnel for receiving customer inquiries.

(7) Brief description of the nature of the service being provided.

(8) Disclosure of any civil, criminal, or regulatory sanctions or penalties imposed within the 10 years immediately prior to registration, against the company or any owner, partner, officer, or director of the company pursuant to any state or federal consumer protection law or regulation, and of any felony convictions of any kind against the company or any owner, partner, officer, or director of the company. In addition, each electric service provider shall furnish the commission with fingerprints for those owners, partners, officers, and managers of the electric service provider specified by any commission decision applicable to all electric service providers. The commission shall submit completed fingerprint cards to the Department of Justice. Those fingerprints shall be available for use by the Department of Justice and the Department of Justice may transmit the fingerprints to the Federal Bureau of Investigation for a national criminal history record check. The commission may use information obtained from a national criminal history record check conducted pursuant to this section to determine an electric service provider's eligibility for registration.

(9) Proof of financial viability. The commission shall develop uniform standards for determining financial viability and shall publish those standards for public comment no later than March 31, 1998. In determining the financial viability of the electric service provider, the commission shall take into account the number of customers the potential registrant expects to serve, the number of kilowatthours of electricity it expects to provide, and any other appropriate criteria to ensure that residential and small commercial customers have adequate recourse in the event of fraud or nonperformance.

(10) Proof of technical and operational ability. The commission shall develop uniform standards for determining technical and operational capacity and shall publish those standards for public comment no later than March 31, 1998.

(c) Any registration filing approved by the commission prior to the effective date of this section which does not comply in all respects with the requirements of subdivision (a) of Section 394 shall nevertheless continue in force and effect so long as within 90 days of the effective date of this section the electric service provider undertakes to supplement its registration filing to the satisfaction of the commission. Any registration that is not supplemented by the required information within the time set forth in this subdivision shall be suspended by the commission and shall not be reinstated until the commission has found the registration to be in full compliance with subdivision (a) of Section 394.

(d) Any public agency offering aggregation services as provided for in Section 366 solely to retail electric customers within its jurisdiction that has registered with the commission prior to the enactment of this section may voluntarily withdraw its registration to the extent that it is exempted from registration under this chapter.

(e) Before reentering the market, electric service providers whose registration has been revoked shall file a formal application with the commission that satisfies the requirements set forth in Section 394.1 and demonstrates the fitness and ability of the electric service provider to comply with all applicable rules of the commission.

(f) Registration with the commission is an exercise of the licensing function of the commission, and does not constitute regulation of the rates or terms and conditions of service offered by electric service providers. Nothing in this part authorizes the commission to regulate the rates or terms and conditions of service offered by electric service providers.

SEC. 7. Section 394.25 of the Public Utilities Code is amended to read:

394.25. (a) The commission may enforce the provisions of Sections 2102, 2103, 2104, 2105, 2107, 2108, and 2114 against electric service providers as if those electric service providers were public utilities as defined in these code sections. Notwithstanding the above, nothing in this section grants the commission jurisdiction to regulate electric service providers other than as specifically set forth in this part. Electric service providers shall continue to be subject to the

provisions of Sections 2111 and 2112. Upon a finding by the commission's executive director that there is evidence to support a finding that the electric service provider has committed an act constituting grounds for suspension or revocation of registration as set forth in subdivision (b) of Section 394.25, the commission shall notify the electric service provider in writing and notice an expedited hearing on the suspension or revocation of the electric service provider's registration to be held within 30 days of the notification to the electric service provider of the executive director's finding of evidence to support suspension or revocation of registration. The commission shall, within 45 days after holding the hearing, issue a decision on the suspension or revocation of registration, which shall be based on findings of fact and conclusions of law based on the evidence presented at the hearing. The decision shall include the findings of fact and the conclusions of law relied upon.

(b) An electric service provider may have its registration suspended or revoked, immediately or prospectively, in whole or in part, for any of the following acts:

(1) Making material misrepresentations in the course of soliciting customers, entering into service agreements with those customers, or administering those service agreements.

(2) Dishonesty, fraud, or deceit with the intent to substantially benefit the electric service provider or its employees, agents, or representatives, or to disadvantage retail electric customers.

(3) Where the commission finds that there is evidence that the electric service provider is not financially or operationally capable of providing the offered electric service.

(4) The misrepresentation of a material fact by an applicant in obtaining a registration pursuant to Section 394.

(c) Pursuant to its authority to revoke or suspend registration, the commission may suspend a registration for a specified period or revoke the registration, or in lieu of suspension or revocation, impose a moratorium on adding or soliciting additional customers. Any suspension or revocation of a registration shall require the electric service provider to cease serving customers within the boundaries of investor-owned electric corporations, and the affected customers shall be served by the electrical corporation until the time when they may select service from another service provider. Customers shall not be liable for the payment of any early termination fees or other penalties to any electric service provider under the service agreement if the serving electric service provider's registration is suspended or revoked.

(d) The commission shall require any electric service provider whose registration is revoked pursuant to paragraph (4) of subdivision (b) to refund all of the customer credit funds that the electric service provider received from the State Energy Resources Conservation and Development Commission pursuant to paragraph (1) of subdivision (e) of Section 383.5. The repayment of these funds shall be in addition to all other penalties and fines appropriately assessed the electric service provider for committing those acts under other provisions of law. All customer credit funds refunded under this subdivision shall be deposited in the Renewable Resource Trust Fund for redistribution by the State Energy Resources Conservation and Development Commission pursuant to Section 383.5. This subdivision may not be construed to apply retroactively.

(e) If a customer of an electric service provider or a community choice aggregator is involuntarily returned to service provided by an electrical corporation, any reentry fee imposed on that customer that the commission deems is necessary to avoid imposing costs on other customers of the electric corporation shall be the obligation of the electric service provider or a community choice aggregator, except in the case of a customer returned due to default in payment or other contractual obligations or because the customer's contract has expired. As a condition of its registration, an electric service provider or a community choice aggregator shall post a bond or demonstrate insurance sufficient to cover those reentry fees. In the event that an electric service provider becomes insolvent and is unable to discharge its obligation to pay reentry fees, the fees shall be allocated to the returning customers.

SEC. 8. No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because the only costs that may be incurred by a local agency or school district will be incurred because this act creates a new crime or infraction, eliminates a crime or infraction, or changes the penalty for a crime or infraction, within the meaning of Section 17556 of the Government Code, or changes the definition of a crime within the meaning of Section 6 of Article XIII B of the California Constitution.

Appendix C: Energy Option Evaluation Scores

As described in the “Analytical Evaluation” discussion (Page 8), Red Mountain created a scoring and weighting methodology that ranked options according to value metrics as indicated by the discussions, interviews, and research conducted throughout the plan development process. The scoring process contemplated the overall *value* of an option vs. the costs and risks associated with its implementation. Value was uniquely defined for each of the 28 options.

The process utilized an allocation of 100 points across several “value metrics” to create appropriate weighting factors for scoring. Raw Scores are depicted in Table A-1, below. Tables A-2 and A-3 illustrate the specific value metrics utilized and rationale for point allocation.

| | | | Overall Value | Cost | Risk |
|----------------------------|----|-----------------------------------|---------------|------|-------|
| Utility Service Options | 1 | Utility oversight authority | 89.5 | 35 | 8 |
| | 2 | Utility service quality standards | 73.75 | 20 | 5 |
| | 3 | Tribal energy committee | 70.5 | 22.5 | 2 |
| | 4 | Utility generation authority | 50.25 | 90 | 90 |
| | 5 | Utility operating authority | 49 | 97 | 97 |
| Energy Management Options | 6 | Energy accounting software | 76.75 | 30 | 8 |
| | 7 | EE surcharge recovery | 89 | 22.5 | 7 |
| | 8 | EE building codes | 78 | 25 | 10 |
| | 9 | EE procurement policies | 80.75 | 20 | 5 |
| | 10 | Optimized work schedules | 75 | 10 | 8 |
| | 11 | Multi-building EMS/M&C | 47.75 | 50 | 45 |
| | 12 | TOU management | 31.5 | 32.5 | 48 |
| | 13 | Process improvements | 43.75 | 30 | 35 |
| Generation Options | 14 | Large RE generation (SWTEC) | 69.75 | 90 | 75 |
| | 15 | Small-scale RE generation | 75 | 70 | 55 |
| | 16 | District heating/cooling | 77.5 | 70 | 57 |
| Energy Technology Options | 17 | Technology investment | 53.5 | 50 | 37 |
| | 18 | Large Facility Supply | 63.25 | 70 | 55 |
| | 19 | Real-time metering | 41 | 50 | 17 |
| | 20 | Demand response | 36.5 | 60 | 30 |
| | 21 | Advanced RE technology | 27.75 | 50 | 52.5 |
| | 22 | RE capital fund | 45.75 | 50 | 35 |
| | 23 | RE equity play | 36.25 | 50 | 50.25 |
| Power Delivery/ROW Options | 24 | ROW management | 82.25 | 20 | 20 |
| | 25 | WAPA allocation Integration | 87.25 | 20 | 10 |
| | 26 | CCA | 86.25 | 50 | 30 |
| | 27 | ROW valuation | 67.5 | 30 | 17 |
| | 28 | Wheeling agreements | 38.75 | 60 | 56 |

Table A-1. Energy Option Raw Scores

| | | OVERALL VALUE | | | | | | | | | | |
|---|-----------------------------------|-----------------|------------------------|------------------------|-----------------------------|-------------------------------|---------------------------------|--------------------------------------|-----------------------------|-------------------------|---------------------------------|-----------------------------|
| | | Alignment With: | | | | Potential For: | | | | | | |
| | | Tribal Values | Council & EIC Guidance | Vision, Mission, Goals | Other Stakeholder Interests | Potential for Wealth Creation | Potential Environmental Benefit | Collaboration/ Relationship Building | Enhanced Community Standing | Reliability Improvement | Quality of Service Improvements | Outside Funding, Leveraging |
| Weighted Possible Value | | 10 | 20 | 10 | 8 | 13 | 5 | 15 | 10 | 3 | 3 | 3 |
| Utility Service Options | Utility oversight authority | 10.00 | 16.00 | 10.00 | 7.00 | 9.50 | 5.00 | 13.50 | 9.50 | 3.00 | 3.00 | 3.00 |
| | Utility service quality standards | 9.00 | 13.50 | 10.00 | 6.00 | 4.25 | 5.00 | 12.00 | 8.00 | 3.00 | 3.00 | 0.00 |
| | Tribal energy committee | 10.00 | 14.00 | 9.00 | 5.00 | 3.00 | 4.00 | 11.50 | 8.00 | 1.00 | 2.00 | 3.00 |
| | Utility generation authority | 5.00 | 10.00 | 7.25 | 1.00 | 10.00 | 4.00 | 4.00 | 1.00 | 3.00 | 2.00 | 3.00 |
| | Utility operating authority | 5.00 | 10.00 | 7.00 | 1.00 | 8.00 | 4.00 | 4.00 | 1.00 | 3.00 | 3.00 | 3.00 |
| Energy Management Options | | | | | | | | | | | | |
| | Energy accounting software | 10.00 | 13.25 | 9.00 | 5.00 | 7.00 | 5.00 | 11.50 | 7.00 | 3.00 | 3.00 | 3.00 |
| | EE surcharge recovery | 10.00 | 17.50 | 10.00 | 6.00 | 12.00 | 5.00 | 14.00 | 7.50 | 2.00 | 2.00 | 3.00 |
| | EE building codes | 10.00 | 16.00 | 10.00 | 5.50 | 8.00 | 5.00 | 11.00 | 7.50 | 2.00 | 1.00 | 2.00 |
| | EE procurement policies | 10.00 | 16.00 | 10.00 | 7.25 | 6.50 | 4.50 | 11.00 | 8.00 | 2.50 | 2.50 | 2.50 |
| | Optimized work schedules | 10.00 | 13.25 | 9.25 | 5.25 | 5.75 | 5.00 | 13.00 | 7.50 | 3.00 | 3.00 | 0.00 |
| | Multi-building EMS/M&C | 5.00 | 4.00 | 9.00 | 2.75 | 9.00 | 5.00 | 4.00 | 1.00 | 3.00 | 2.00 | 3.00 |
| | TOU management | 5.00 | 3.00 | 8.00 | 2.00 | 7.00 | 3.50 | 2.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Generation Options | Process improvements | 7.00 | 7.00 | 6.75 | 2.00 | 7.00 | 4.50 | 4.50 | 1.00 | 1.00 | 1.50 | 1.50 |
| | | | | | | | | | | | | |
| | Renewable generation | 8.25 | 12.00 | 10.00 | 5.00 | 6.00 | 5.00 | 12.50 | 7.00 | 0.50 | 0.50 | 3.00 |
| | Small-scale RE generation | 9.00 | 13.00 | 10.00 | 5.00 | 7.00 | 5.00 | 11.50 | 7.00 | 3.00 | 2.00 | 2.50 |
| Energy Technology Options | District heating/cooling | 8.50 | 11.00 | 10.00 | 7.50 | 9.50 | 5.00 | 12.50 | 7.50 | 1.50 | 2.00 | 2.50 |
| | | | | | | | | | | | | |
| | Technology investment | 5.00 | 10.00 | 10.00 | 5.00 | 10.50 | 3.50 | 6.00 | 2.50 | 0.00 | 0.00 | 1.00 |
| | Large Facility Supply | 8.00 | 12.00 | 10.00 | 4.25 | 7.00 | 2.50 | 10.50 | 6.00 | 1.50 | 1.00 | 0.50 |
| | Real-time metering | 7.00 | 6.00 | 5.00 | 2.00 | 7.00 | 4.50 | 4.50 | 1.00 | 1.00 | 0.50 | 2.50 |
| | Demand response | 6.00 | 5.50 | 5.00 | 3.00 | 6.00 | 4.50 | 4.50 | 1.00 | 0.00 | 0.00 | 1.00 |
| | Advanced RE technology | 4.50 | 4.00 | 5.00 | 2.75 | 4.50 | 3.00 | 1.00 | 1.00 | 0.00 | 0.00 | 2.00 |
| | RE capital fund | 7.50 | 6.75 | 5.00 | 3.00 | 12.50 | 3.50 | 5.00 | 1.50 | 0.00 | 0.00 | 1.00 |
| Power Delivery/ ROW Options | RE equity play | 5.00 | 5.25 | 5.00 | 3.00 | 9.75 | 3.00 | 2.75 | 1.50 | 0.00 | 0.00 | 1.00 |
| | | | | | | | | | | | | |
| | ROW management | 10.00 | 17.25 | 10.00 | 8.00 | 8.00 | 4.00 | 10.00 | 7.00 | 3.00 | 2.00 | 3.00 |
| | WAPA allocation integration | 10.00 | 18.50 | 10.00 | 8.00 | 11.25 | 4.00 | 10.00 | 6.50 | 3.00 | 3.00 | 3.00 |
| | CCA | 10.00 | 15.00 | 10.00 | 8.00 | 11.75 | 4.50 | 12.00 | 6.50 | 3.00 | 2.50 | 3.00 |
| ROW Options | ROW valuation | 10.00 | 12.00 | 10.00 | 4.50 | 5.50 | 4.00 | 10.00 | 6.00 | 1.50 | 2.00 | 2.00 |
| | Wheeling agreements | 5.00 | 5.25 | 5.00 | 4.25 | 10.25 | 2.00 | 4.50 | 2.00 | 0.50 | 0.00 | 0.00 |
| Note: Weighted possible value is based upon a "spend 100 points" proposition, whereby 100 points are allocated across a series of value metrics, based on highest importance. Assigned value is a subjective assessment of how responsive each option is to the named value metric, and/or how it ranks relative to other options. | | | | | | | | | | | | |

Table A-2. Value Scoring and Weighting Factors.

| | | COST | | | TOTAL SCORE | RISK | | | | | | |
|---|-----------------------------------|------------------|--------------------|---------------------|----------------|-------------------------------|-----------|-------------|-------------------------|--------------------|---------------------------|--------------------------|
| | | Capital Costs | Operating Costs | Life Cycle Costs | | Relationship and Political | Financial | Operational | Environmental Impact | Economic Impact | Logistical Feasibility | Implement- ation Ease |
| Weighted Possible Value | | 30 | 20 | 50 | 100 | 20 | 15 | 15 | 20 | 20 | 5 | 5 |
| Utility Service Options | Utility oversight authority | 7.5 | 11 | 16.5 | 35 | 4 | 1.25 | 1.25 | 0 | 0.5 | 0.25 | 0.75 |
| | Utility service quality standards | 4 | 6 | 10 | 20 | 2 | 1 | 1.25 | 0 | 0 | 0.25 | 0.5 |
| | Tribal energy committee | 6.5 | 6 | 10 | 22.5 | 0 | 0.5 | 1 | 0 | 0 | 0.25 | 0.25 |
| | Utility generation authority | 28 | 13.5 | 48.5 | 90 | 19 | 14.75 | 14.75 | 14 | 17.5 | 5 | 5 |
| | Utility operating authority | 29 | 19 | 49 | 97 | 20 | 15 | 15 | 17 | 20 | 5 | 5 |
| Energy Management Options | Energy accounting software | 7.5 | 10 | 12.5 | 30 | 1 | 1.75 | 2.5 | 0 | 0.5 | 0.75 | 1.5 |
| | EE surcharge recovery | 6 | 4.5 | 12 | 22.5 | 1 | 1.25 | 1.75 | 0 | 0.5 | 1 | 1.5 |
| | EE building codes | 7.5 | 5 | 12.5 | 25 | 1.5 | 2 | 1.5 | 0 | 1 | 2 | 2 |
| | EE procurement policies | 4 | 6 | 10 | 20 | 0.75 | 1 | 2.5 | 0 | 0 | 0.25 | 0.5 |
| | Optimized work schedules | 0 | 5 | 5 | 10 | 1 | 1.75 | 2.5 | 0 | 0.5 | 0.75 | 1.5 |
| | Multi-building EMS/M&C | 16 | 9 | 25 | 50 | 8.5 | 9.5 | 12 | 0 | 6 | 4.5 | 4.5 |
| | TOU management | 4 | 11.5 | 17 | 32.5 | 5 | 14 | 13.5 | 0 | 9.5 | 3 | 3 |
| | Process improvements | 2 | 12 | 16 | 30 | 3 | 6.5 | 11.5 | 0 | 7 | 3.5 | 3.5 |
| Generation Options | Renewable generation | 28 | 10 | 52 | 90 | 16.5 | 14.5 | 13.75 | 3.75 | 16.5 | 5 | 5 |
| | Small-scale RE generation | 18 | 8 | 44 | 70 | 11.25 | 12 | 13.5 | 1.75 | 8.5 | 4 | 4 |
| | District heating/cooling | 22 | 10 | 38 | 70 | 9.5 | 13.5 | 13.5 | 2.5 | 10 | 4 | 4 |
| Energy Technology Options | Technology investment | 15 | 5 | 30 | 50 | 3 | 13.5 | 11 | 0 | 7 | 0.5 | 2 |
| | Large Facility Supply | 25 | 10 | 35 | 70 | 10.25 | 12.5 | 13.5 | 2.25 | 8.5 | 4 | 4 |
| | Real-time metering | 15 | 5 | 30 | 50 | 1.5 | 8 | 4.5 | 0 | 1 | 0.5 | 1.5 |
| | Demand response | 20 | 17.5 | 22.5 | 60 | 5 | 8.5 | 10.5 | 0 | 2.5 | 1.5 | 2 |
| | Advanced RE technology | 15 | 5 | 30 | 50 | 9 | 11 | 12.5 | 0 | 11 | 4.5 | 4.5 |
| | RE capital fund | 15 | 5 | 30 | 50 | 3 | 11.5 | 11 | 0 | 7 | 0.5 | 2 |
| | RE equity play | 15 | 5 | 30 | 50 | 10 | 13.5 | 14.75 | 0 | 7 | 2.5 | 2.5 |
| Power Delivery/ROW Options | ROW management | 4 | 6 | 10 | 20 | 7.5 | 2.5 | 2.5 | 0 | 1.5 | 3 | 3 |
| | WAPA allocation integration | 5 | 5 | 10 | 20 | 5.5 | 1.25 | 1.25 | 0 | 0.75 | 0.75 | 0.5 |
| | CCA | 15 | 10 | 25 | 50 | 7.5 | 5 | 8 | 0 | 2.5 | 3.25 | 3.75 |
| | ROW valuation | 5 | 10 | 15 | 30 | 3.5 | 4 | 6.5 | 0 | 1 | 0.5 | 1.5 |
| | Wheeling agreements | 19 | 18 | 23 | 60 | 10 | 12 | 13.5 | 2.5 | 9 | 4 | 5 |

Notes: Weighted possible value is based upon a "spend 100 points" proposition, whereby 100 points are allocated across a series of value metrics, based on highest importance. Assigned value is a subjective assessment of how responsive each option is to the named value metric, and/or how it ranks relative to other options. "Capital Costs" reflect general "first costs", inclusive of O&M budget expenditures, discretionary budgets, and expenses as well as capital funds.

Table A-3. Cost and Risk Scoring and Weighting Factors.