



Butte County Board of Supervisors Agenda Transmittal

Clerk of the Board Use Only

Agenda Item:

5.05

Subject: PowerButte Workshop - Update on Current and Proposed Energy Initiatives

Department: Administration

Meeting Date Requested: August 25, 2015

Contact: Paul Hahn

Phone: 530-538-7224

Regular Agenda

Consent Agenda

Department Summary: *(Information provided in this section will be included on the agenda. Attach explanatory memorandum and other background information as necessary).*

The County of Butte continues to embark on energy programs and projects in order to: improve the economy, provide cost saving opportunities for residents and businesses, and positively impact the environment. PowerButte represents the many energy initiatives currently underway, as well as other new projects and programs to be considered in the future.

In order to explain the status of each existing and proposed PowerButte initiative, an update will be provided on the following:

1. Chevron Energy Program Results,
2. Climate Action Plan Monitoring Report,
3. Solar Overlay Zone - Draft Vision and Guiding Principles, and
4. Proposed Community Choice Aggregation.

Fiscal Impact:

None.

Personnel Impact:

No initial personnel impact.

Action Requested:

1. Chevron Energy Program Results – Accept for information.
2. Climate Action Plan Monitoring Report – Accept for information.
3. Solar Overlay Zone – No action required – Accept for information.
4. Community Choice Aggregation – Provide direction on evaluating CCA as an energy alternative for Butte County.

Administrative Office Review: Sang Kim, Deputy Chief Administrative Officer



Butte County Administration Paul Hahn, Chief Administrative Officer

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MEMORANDUM

DATE: August 25, 2015
TO: Board of Supervisors
FROM: Paul Hahn, Chief Administrative Officer
RE: PowerButte Workshop – Update on Current and Proposed Energy Initiatives

BACKGROUND

In 2012, the Board of Supervisors was presented with a Sustainability Report outlining action items aimed at cost saving measures and other benefits associated with focused effort on managing water, waste and recycling, fleet management, climate change and energy. Since that time, several departments have worked together to develop and implement cost saving plans throughout all five aspects included in the original report.

Although all of the components within the original sustainability report remain pertinent today, staff has now recognized that perhaps a couple of the original components and one new component that was not part of the original report can come together under a PowerButte Program that will more fully capitalize on the strengths Butte County has to offer in increasing local employment and in reducing cost for County citizens and local government. In addition, these components directly support the initiatives established in the Climate Action Plan.

POWERBUTTE WORKSHOP

Part of the purpose of the PowerButte Workshop is to allow staff to present information on a cost savings energy program, outline the concept of implementing a Solar Overlay component to the General Plan and introduce a Consumer Choice Aggregate program sought by the business community in Butte County. In addition, staff will provide the Board with an update to the General Plan demonstrating how these components directly support the initiatives established in the General Plan.

In addition to the presentation, staff from the departments involved in the PowerButte effort have provided additional detail in the following staff reports:

1. Chevron Energy Program Results – General Services – Exhibit 1
2. Climate Action Plan Monitoring Report – Development Services – Exhibit 2
3. Solar Overlay Zone – Draft Vision and Guiding Principles – Development Services – Exhibit 3
4. Community Choice Aggregation – Administration – Exhibit 4

ACTION REQUESTED

1. Chevron Energy Program Results – Accept for information.
2. Climate Action Plan Monitoring Report – Accept for information.
3. Solar Overlay Zone – Accept for information.
4. Community Choice Aggregation – Provide direction on evaluating CCA as an energy alternative for Butte County.

EXHIBIT 1

CHEVRON ENERGY PROGRAM RESULTS



General Services Administration

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To: The Honorable Butte County Board of Supervisors
From: Grant Hunsicker, Director – General Services
Subject: Exhibit 1 - Chevron Energy Program Results
Date: August 25, 2015

INTRODUCTION

Evaluating and implementing energy related ways of reducing cost is not new to the County of Butte. In 2004, the County installed a 1.18 Megawatt solar array, one of the largest in the United States at the time. In 2008, the County contracted with Aircon to complete an energy analysis that resulted in 10 central heating, cooling, and air conditioning units being replaced in the existing main jail. In 2010, as a part of the Oroville Government Campus design plan, LPA Inc. evaluated energy consumption of County offices in Oroville identifying other opportunities to save money. Most recently, and the topic of this staff report, the County engaged Chevron Energy Solutions (CES) to again evaluate opportunities for the County to save money through implementing energy related projects.

CHEVRON ENERGY SOLUTIONS' ANALYSIS AND RECOMMENDATIONS

Spanning several months, CES performed a comprehensive review of energy consumption in County owned and leased facilities throughout the entire County. At the conclusion of their analysis, CES presented three broad areas for the County to consider:

1. Energy Monitoring

At the time of the initial solar installation, equipment to monitor kilowatt hour of energy production generated by the solar array was installed, but the hardware and software necessary to analyze the complex nature of cost associated with such production was not common and was not installed. Today, with the PG&E rate for electricity changing sometimes many times in one day, it is nearly impossible to determine the cost savings generated by the solar arrays with the existing equipment. CES suggested that the County evaluate installing additional monitoring hardware and software to the existing solar arrays. While such equipment may improve notifications of malfunction to staff, it is not likely that this equipment would result in increased performance or cost savings.

With many buildings of diverse type all connected to a single PG&E meter in many cases, it is difficult to determine electrical use in any one building. This makes identification of opportunities difficult to determine and results hard to measure. CES recommended a significant expansion to the existing Energy Management System that tracks energy consumption of each separate building over the existing data network managed by Information Systems. Unlike the solar array, upgrading the Energy Management System, which allows for remote system alterations, can directly improve conservation and reduce cost.

2. Replacement of Existing Mechanical Equipment

The County suffers from deferred facilities maintenance and operates with outdated and very inefficient lighting, climate control package units and large scale boilers and chillers. CES suggested that the County consider replacing a very large number of lighting fixtures and bulbs along with over a dozen climate control package units and all existing boilers and chillers in 25 County Center Drive and the Public Works facilities.

3. New Solar Installation(s)

With others in Northern California implementing solar, CES also considered the installation of solar arrays designed to deliver solar power to existing County facilities as well as production back to the electrical grid for profit.

In essence, CES recommended a \$15m project that covered all three aspects listed above. Just as was the case with Aircon, CES requires a contract for the design and build of the entire project and CES requires that the lighting and mechanical replacements be included in the scope of work as well as the installation of new solar.

Initially, the financial structure of the project appeared appealing. The County would not be required to make an initial investment assuming a 20 year fully financed loan could be obtained. During the term of the loan, nearly all of the energy savings would go to repay the loan and to compensate CES, and less than 5% of the cost of the energy savings would be realized by the County. After the 20 year loan expires, the County would realize the full benefit of the cost savings.

COMMITTEE FINDINGS

Committee members from General Services and Administration completed a full analysis of the CES findings and, in particular, the financial modeling that formed the foundation of the CES project feasibility.

After a thorough analysis, the committee made four findings:

1. Excessive PG&E Escalation Rate

For the project to be financially feasible, the financial model required by CES calls for a 5% annual increase in PG&E electrical rates over the 20 year period. However, many sources including the 268 page “Annual Energy Outlook 2014” produced by the U.S. Energy Information Administration (EIA) suggests that an annual increase of 2.2% in our region between now and 2040 to be more realistic. It is anticipated that with increased solar production, supply will exceed demand and prices will remain fairly stable and many use a 1.78% increase in PG&E electrical rates when modeling the future.

The cost savings during the early years of the financial model prepared by CES is minimal and only after the later years, subsequent to a seemingly exaggerated inflation of PG&E rates, would the County benefit if the rate does truly increase at the 5% rate.

2. Loan Term

While the term of the loan within the CES financial model is 20 years, some of the components have an estimated life of 10 to 15 years. The balance of the products are anticipated to last approximately 20 years and will be at end of life about the time the County is finally able to receive the full benefits of the energy savings.

3. Additional Solar Arrays

In evaluating another phase of solar arrays, there are two important factors to consider. First, due to economies of scale in construction, the larger the solar array the lower the cost per kilowatt power produced and small arrays result in a high cost per kilowatt production. Second, the energy produced and utilized directly by a County owned solar array saves the full cost normally charged by PG&E, but the energy produced in excess of what can be utilized by the County facilities can be sold to the electrical grid at a much lower rate.

At present with the existing solar arrays, a relatively small array would be required to provide energy to the balance of the Oroville campus and the cost to construct exceeds the anticipated savings to the County. If a large solar array is to be implemented, one designed to offer the lowest possible cost per kilowatt, more energy would be generated than the County can use and the cost would exceed the benefit of selling excess energy to the grid at a low rate.

4. Project Scope Concerns

With a realistic escalation rate, the only way the financial model prepared by CES was financially feasible, was if CES performs all of the work including lighting, mechanical and new solar array installations.

In the model prepared by CES, the County would give up a majority of the savings from even the simplest aspects of the project such as changing light bulbs and replacing climate control package units. If the lighting and mechanical aspects of the project are removed from the CES financial model, implementation of another solar array is not financially feasible on its own.

In addition, with CES performing all design and construction, the construction portion of the work is not conducted through competitive solicitation. The construction cannot be put out to bid until designed, and CES will not design if they are not also guaranteed the construction part of the project.

CONCLUSIONS

The Butte County committee evaluating the latest energy project makes the following conclusions:

First, other counties that have implemented solar array installations have either followed the traditional design-bid-build process and did not utilize a firm similar to CES, or they have accepted the financial model depicting an annual 5% increase in PG&E rates in the next 20 years that does not reflect the current predictions.

Second, if County staff provide project management for the more simple lighting and mechanical projects instead of CES, then the energy cost savings can be fully realized by the County and the construction portion of the project can be put out to bid in the local community.

Finally, if a large solar array is to be considered perhaps some form of Community Choice Aggregation could make the project financially feasible.

EXHIBIT 2

CLIMATE ACTION PLAN

MONITORING PROGRAM REPORT

MEMO

To: Dan Breedon
BUTTE COUNTY

From: Jennifer Venema

Cc: Jeff Henderson, Tammy Seale

Date: July 27, 2015

Re: 2015 Quarter 2 Butte County Climate Action Plan Monitoring Report

We are happy to provide the 2015 Quarter 2 Butte County Climate Action Plan Monitoring Report. This memo provides the second quarterly update on the County's progress with implementing the Butte County Climate Action Plan. The memo provides an updated overview of progress, with additional information that builds on the first quarterly update to the Board of Supervisors. Additional information will be presented in future updates. County staff will continue to provide quarterly reports on progress to the Board, in addition to annual reports on overall changes in local activity and estimated progress toward the County's Climate Action Plan goals.

We look forward to your input and will revise this document following your feedback. If you have any questions or comments, please contact Jennifer Venema at jvenema@mbakerintl.com or (916) 517-4407.

INTRODUCTION

The Butte County Board of Supervisors adopted the Butte County Climate Action Plan (CAP) in February 2014. The CAP establishes measures and implementation actions that serve as the County's strategy to reduce greenhouse gas (GHG) emissions. The CAP is an implementation tool of the County General Plan, serving as the County's mitigation strategy to address climate change consistent with the California Environmental Quality Act (CEQA) Guidelines criteria for a Qualified GHG Reduction Strategy. Reduction targets in the CAP call for a 15% reduction below baseline 2006 GHG emissions levels by 2020 consistent with state guidelines, and a 42% reduction below baseline 2006 levels by 2030, which is the General Plan horizon year. The CAP calls for monitoring implementation efforts to help demonstrate the County's progress in implementing the General Plan and to be consistent with the CEQA Guidelines.

Butte County initiated monitoring of the CAP in March 2015. Staff from the County and its consultant, Michael Baker International (formerly PMC), provided the first quarterly update on CAP implementation in June 2015. The project team continues to collect data and coordinate efforts to prepare for the first annual update to the Board planned for early 2016. This memo presents an update on progress and data collection efforts. At the June 23, 2015, Butte County Board of Supervisors meeting, County staff reviewed the first quarterly report with the Board and answered questions on monitoring and the status of County efforts. This memo presents additional information collected since the June report, including accomplishments of the General Services Department, new information on the County fleet, and additional County efforts to seek implementation grants.

Implementing the CAP involves multiple County departments. By tracking CAP progress, County staff is also able to highlight the cross benefits of multidepartmental work efforts. By conducting regular monitoring, the County can also coordinate across departments and accurately track the costs and benefits of CAP implementation. County staff will continue to monitor the CAP on a quarterly basis, with plans to provide the first comprehensive annual report on progress in January 2016.

CHANGES IN ACTIVITY DATA

The monitoring process involves collecting data from multiple agencies and organizations, including private utility companies such as the Pacific Gas and Electric Company (PG&E), local service providers, and state agencies. Service providers and agencies often require a lengthy period to process and release data. As a result, data on local activities that produce GHG emissions (energy use, vehicle miles traveled, solid waste produced, and others, collectively known as activity data) is limited at this time, although some information is available. For example, data from PG&E shows that residential energy use has declined consistently since the 2006 baseline and that this decline has continued to occur despite improving economic conditions and population growth. As of 2013, residential electricity use has declined approximately 7% from 2006 levels and residential natural gas use has dropped by approximately 21%.

The County and Michael Baker are moving forward with data requests from additional agencies and organizations, and will analyze the information as it is made available. County and consultant staff will also continue to analyze PG&E data to identify additional trends and other items of relevance to CAP tracking. This information will be presented in the annual report to provide an estimate of updated GHG emissions in the unincorporated areas of Butte County and to identify progress toward achieving CAP goals.

ONGOING AND COMPLETED ACTIONS

Butte County has succeeded with the implementation of numerous CAP strategies, also referred to as GHG reduction measures. CAP implementation involves numerous County departments and external agencies and groups. Despite the variety of departments and agencies involved, these efforts collectively help achieve the goals in the County's adopted CAP. Early steps in implementing the CAP also demonstrate County leadership and the cost-saving benefits of numerous CAP measures. These ongoing efforts include actions which may not have a directly measurable reduction on GHG emissions, but which support GHG reduction activities, such as educational campaigns that raise community awareness about energy conservation. These items include actions which the County has conducted internally (for example, waste reduction efforts in County buildings), actions which the County has implemented in the wider community (for example, new bike lanes on roads in unincorporated areas), and steps undertaken by community members and other organizations which the County is not directly carrying out (for example, residents installing solar panels on the roofs of their homes). Several of these actions may have been initiated prior to CAP adoption in early 2014, but they continue to reduce GHG emissions or support reductions and can serve as a foundation for more extensive future GHG reduction efforts.

- **Solar Panels:** Since CAP adoption in 2014, 9,531 kilowatts (kW) of solar panels were installed in Butte County, across 1,478 photovoltaic (PV) sites. This accounts for nearly a quarter of the solar capacity installed in the county since 2001. Of these installations, 8,306 kW came from residential sites and 1,225 kW came from nonresidential sites. These installations help achieve the targets established in measures EN8, EN9, and EN10. Based on progress to date and data from PG&E at the time of this report, the County is estimated to have achieved 56% of the 2020 target for measure EN9 (nonresidential solar PV) and 30% of the 2020 target for measure EN10 (voluntary solar PV). Data from PG&E will be confirmed with the Building Division. Yet, this early success indicates the potential to exceed CAP targets for solar PV in 2020, with the potential to exceed the GHG emissions reductions estimates for this measure.
- **Solar Overlay:** The County has progressed toward creating a renewable energy overlay, as directed by CAP measure EN11. The project, "Power Butte," has engaged a stakeholder group including PG&E, the Farm Bureau, solar contractors, and overlay-area property owners. Butte County successfully secured a competitive grant from the Strategic Growth Council for this effort. In June, the County hosted two workshops to share project information and invite input from the public. County staff is currently analyzing potential sites for the overlay with the PlaceWorks consultant team. The County's success achieving the grant is an important milestone for CAP implementation. The CAP anticipates that the solar PV zone will result in the largest single source of local GHG emissions reductions credits, providing nearly 60% of the local GHG reductions necessary to achieve the 2020 target of a 15% reduction below 2006 levels.
- **Construction Idling Time:** The County is enforcing idling time limits for construction of five minutes, following guidance from the Butte County Air Quality Management District. This is good progress toward the 2020 idling time target of three minutes, set forth in measure F2.
- **Methane Capture at Neal Road Recycling and Waste Facility:** Butte County has sustained maximum practical methane capture rate at the Neal Road Recycling and Waste Facility, as supported by measures W1 and GO9. The County's consultant estimates that approximately

90%–95% of methane is captured based on the construction and components of the landfill gas collection system. To support this continued capture rate, the County has done the following:

- Four additional gas collection wells were installed in the past year. Additional gas collection wells were installed in new waste cells.
 - Waste collection and recycling franchises were implemented in March 2015.
 - Additional recycling and yard waste collection programs are provided as part of base collection services in areas designated as Recycling Zones (unincorporated areas that have urban-level residential densities).
- **Solid Waste Diversion:** Following CalRecycle guidance, Butte County is currently achieving a waste diversion rate of 58%. This is three-quarters of the way to the 2020 goal of 75% waste diversion established in CAP measure W2. Butte County is working with waste haulers and third-party processors to incorporate organics recycling mandated by AB 1826. The County is also looking into acquiring additional property to establish an aerobic composting operation for organic waste.
 - **County Fleet Fuel Use:** In 2006, the County fleet consumed 277,093 gallons of fuel. In 2014, the fleet consumed 341,840 gallons of fuel, a 64,747-gallon increase. Yet measure GO6 in the CAP identifies a target of reducing fleet fuel use by 65,400 gallons below 2006 levels. In reviewing the data, County staff found that the vehicular fleet also grew from 2006 to 2014, with a 13% increase from 607 vehicles in 2006 to 685 vehicles in 2014. This data indicates that the increase in fleet size likely explains the corresponding increase in fuel use. Overall, the increase in fleet activities could reflect an expansion in the County's service responsibilities. County staff, the project consultant, and staff in Fleet Services continue to investigate fleet data to confirm these changes. Aggregated data from the County's fuel vendor complicates the ability to explain changes in fleet activity. County staff is considering grant opportunities to fund a GPS system that would track vehicle mileage and allow staff to better manage the fleet. These technologies could improve the ability of the County to schedule and conduct maintenance services. Additional data could help County staff understand variations in fuel use year by year.
 - **Landfill Gas Power Plant Production:** The Neal Road Recycling and Waste Facility has a landfill gas power plant that is capable of producing up to 2.2 megawatts (MW) of power from gases emitted by decomposing waste. To prepare for organics recycling (AB 1826) mandates, the County is developing plans for an organics processing facility that may include energy production (anaerobic digestion) to complement the Neal Road Recycling and Waste Facility's existing energy production infrastructure. This shows continued achievement of existing actions credited in the CAP, specifically measure EA6.
 - **Land Annexations:** Approximately 21.27 acres of land located in the unincorporated county has been annexed into cities since the adoption of the CAP. An additional 404 acres are pending annexation and are expected to be approved by Butte Local Agency Formation Commission (LAFCO) in the near future. This acreage would exceed the original expectation in

the CAP that 186 acres would be annexed by 2020, providing additional emissions reductions that could offset any shortfalls in other emissions reduction measures.

- **Government Operations Efficiency:** Butte County has completed key, strategic steps toward improving the energy efficiency and reducing utility costs at government buildings. The General Services Department has conducted energy audits of facilities to identify inefficiencies and potential retrofit opportunities. The FY 2015–2016 budget includes funds to complete a number of projects recommended by the audits, including \$275,000 for lighting and roofing upgrades. Since adoption of the CAP, the County has retrofitted 36,000 square feet of existing County buildings, achieving nearly 12% of the County's goal to retrofit 300,000 square feet of government buildings by 2020. Retrofits reduce energy use and save on utility costs, while improving operations and comfort of County facilities and fulfilling maintenance needs. Retrofits since CAP adoption include a roofing and heating, ventilation, and air conditioning (HVAC) project, along with installation of an energy management system at a County facility for better climate control. Butte County has also built the new Chico Public Works Yard to CALGreen Tier 1 standards, providing an above-code level of efficiency. The County is currently constructing the Hall of Records to CALGreen Tier 1 standards, with 36,000 square feet complete. When construction of the Hall of Records is completed, the County will achieve over 75% of its target to construct 60,000 square feet of new County facilities to CALGreen Tier 1 standards by 2020.
- **Agricultural Grants:** Butte County received a \$100,000 grant from the competitive Sustainable Agricultural Lands Conservation (SALC) program. Using these funds, Butte County will develop a Sustainable Agricultural Land Strategy and Model Sustainable Farm Practices, which will guide future development and agricultural management techniques to promote sustainable farming and preservation of farmland. County staff continues to monitor additional funding opportunities that could support CAP implementation. For example, the California Energy Commission anticipates releasing a grant solicitation for agricultural water efficiency in fall 2015 through the Water Energy Technology program. The program will fund projects that reduce both water use and GHG emissions. Funding could support local agricultural operators to transition away from diesel pumps to more cost- and water-efficient technologies that also reduce GHG emissions, consistent with measure AG3. The County currently has approximately 500 diesel-powered pumps, with a CAP target of transitioning 120 pumps from diesel to a mixture of cleaner energy sources, such as solar photovoltaics. County staff will coordinate with the Butte County Air Quality Management District to identify any progress retrofitting diesel pumps since CAP adoption.
- **Rice GHG Emissions Offset Protocol.** The County monitors opportunities for farmers to offset carbon through rice cultivation practices. The California Air Resources Board (CARB) adopted a Rice Offset Protocol in June 2015. The protocol identifies methods for sustainable rice practices that result in GHG offsets. Farmers that implement the protocol can register through the CARB and sell offset credits to companies through the statewide Cap-and-Trade program. In addition to reducing GHG emissions, participation in the program will also provide financial incentives. The County can leverage the CARB's rice protocol to implement measure AG6 of the CAP, which encourages farmer participation in carbon offset programs.

CONCLUSION AND NEXT STEPS

Since the adoption of the CAP in 2014, County staff has succeeded with the implementation of several CAP measures and programs that are achieving reductions in GHG emissions. Additionally, County staff secured two highly competitive grants from the Strategic Growth Council for implementation of several priority CAP measures that will support future reductions in GHG emissions. The County and Michael Baker will continue to prepare quarterly reports to support implementing momentum and to identify any additional funding opportunities.

Quarterly CAP progress reports provide a concise summary of ongoing efforts to reduce GHG emissions and support reductions. Tracking changes over time also provides flexibility to County staff, identifying early successes that could support or offset other measures that prove challenging to implement or less effective than anticipated. Quarterly reports will also demonstrate County leadership and continue to support cross departmental collaboration in implementing GHG reduction strategies. Once each year, County and consultant staff will prepare an annual report that estimates the current GHG emission levels based on measure implementation and community-wide activity. Annual reports will provide a more comprehensive summary on progress made toward the GHG reduction target in the adopted CAP. The next quarterly CAP progress report is planned for November 2015, with the first annual report planned for early 2016.

EXHIBIT 3

SOLAR OVERLY ZONE



Department of Development Services

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Pete Calarco, Assistant Director

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MEMORANDUM

DATE: August 25, 2015
TO: Honorable Chair and Board of Supervisors
FROM: Tim Snellings, Director Development Services
RE: PowerButte: Solar Overlay Zone – Draft Vision and Guiding Principles

Recommendation: Review the Draft Vision and Guiding Principles for the Solar Overlay Zone project, accept public comment, and provide input and final direction to staff.

Introduction

Butte County has been engaged in a project, funded by a grant from the California Strategic Growth Council to identify, through the use of an overlay zone, optimum sites for large scale solar (aka utility scale) energy facilities that would provide energy directly to a utility. As defined in the Butte County Code, Chapter 24 (the Zoning Ordinance), Table 24-157.1, Tier 4 Solar Energy Facilities are facilities ranging in size from ten to potentially several hundred acres, providing for off-site power usage. The PowerButte Solar Overlay Zone project would help to accomplish the following:

- Encourage economic development by supporting continued job growth in the solar construction industry
- Simplify the permitting and CEQA processes for businesses and landowners seeking to develop Tier 4 solar energy facilities
- Protect valuable farmland, sensitive habitats, and natural resources
- Encourage Tier 4 solar energy facilities, critical components of a diversified and flexible modern energy system

- Help the County and State meet ambitious greenhouse gas reduction targets and green energy production goals for renewable energy generation from one-third by 2020 to 50 percent by 2030 (12,000 megawatts of localized renewable electrical power by 2020)
- Improve the environment and Butte County's quality of life

The Solar Overlay Zone is also set forth as a measure under the Butte County Climate Action Plan (CAP) to help achieve greenhouse gas reduction targets set forth under the CAP (CAP Reduction Measure EN-11) to comply with State law.

Project Overview

The PowerButte: Solar Overlay Zone project consists of seven major tasks, identified as follows:

- Task 1: Initiation, Data Gathering and Review
- Task 2: Visioning and Policy Framework
- Task 3: GIS Mapping and Data Analysis
- Task 4: Overlay Concepts
- Task 5: Draft Overlay
- Task 6: Supplemental EIR
- Task 7: Final Overlay

As set forth under the work program, the County, assisted by its consultant PlaceWorks, has completed Task 1, and drafted a Vision and Guiding Principles for this project under Task 2. **The purpose of this workshop is to provide an opportunity for the Board of Supervisors to become familiar with the Solar Overlay Zone project, review the Draft Visioning and Guiding Principles, accept public comment, and provide input and direction to County staff. The Draft Visioning and Guiding Principles document is provided under Attachment A.**

The development of the Draft Visioning and Guiding Principles took place in conjunction with Stakeholders Group meetings held on June 4, 2015, and two Public Workshops, held on June 10, 2015 in Oroville, and June 11, 2015 in Chico. Outreach for these workshops included direct email to over 900 addresses, display ads in all local papers, posting online and in all Butte County branch libraries, and in local businesses. A summary of input provided at both public workshops is provided under **Attachment B**. The Planning Commission held a public workshop and reviewed the Vision and Guiding Principles for the Solar Overlay Zone project on July 30, 2015. Two members of the public spoke in favor of the project. The

Planning Commission had a brief discussion and recommended approval of the Vision and Guiding Principles. Several changes were made by staff based upon Planning Commission input. In recognition of engagement with unincorporated communities, neighborhoods were also included in the Vision statement and in the Guiding Principles. Further, to recognize that generated electricity is not necessarily used only locally, the Vision statement was amended to reflect that it could be used throughout the State.

In conjunction with the Solar Overlay Zone effort, the County developed a new website power.buttecounty.net and a related online engagement survey. To date, 77 surveys have been completed by members of the public through this site. The survey asks respondents to answer six questions pertaining to issues, opportunities, and potential impacts related to the development of utility-scale solar energy in Butte County.

PowerButte Website and Program

PowerButte is the face of Butte County's commitment to encourage renewable energy and to support its General Plan and Climate Action Plan. Under this website umbrella, you will find information about Butte County's plans to develop a Solar Overlay Zone. PowerButte is also an online source of information on innovative programs that are helping to make Butte County "A Place for Clean Energy". The website also contains information on the County's adopted Climate Action Plan, Property Assessed Clean Energy Programs (PACE), Butte County's Urban Greening Program for the South Oroville area and other initiatives related to energy, efficiency, job creation, and sustainability in Butte County.

Next Steps

Tasks 3 and 4 under this project involve the creation of mapping and preliminary concepts for the Solar Overlay Zone. Three more community workshops will be held in different areas of the County, close to locations where the Solar Overlay Zone is being considered for implementation. Additional workshops with the community, and with the Planning Commission and Board of Supervisors will be held in conjunction with these tasks. Information and public input gathered during these tasks will be provided to the Board of Supervisors during the review process.

ATTACHMENT A

Draft Solar Overlay Zone

Visioning and Guiding Principles

**PowerButte: Solar Overlay Zone
VISION AND GUIDING PRINCIPLES**

VISION

Butte County is a place for clean, abundant, and renewable energy supported by technological innovation. Energy generated within the county contributes to economic development, environmental protection, reduced dependence on fossil fuels, and lower greenhouse gas emissions. Locally-produced clean energy also supports an affordable and reliable power network for local residences, businesses and agricultural operations as well as throughout the state. Utility-scale solar facility development complements the County’s scenic qualities, avoids impacts to agricultural resources, and is sited and designed in harmony with Butte County’s communities, residential neighborhoods, and cities.

GUIDING PRINCIPLES

The following principles will guide the preparation of the Solar Overlay Zone:

- ◆ **Open and Transparent Process.** Conduct a planning process that is open and transparent. Maximize opportunities for county residents and property owners to guide the preparation of rules and regulations that may impact them.
- ◆ **Agriculture.** Ensure that solar facilities support and strengthen agriculture in Butte County. Do not locate utility-scale solar facilities on prime farmland, unique farmland, farmland of statewide importance, or farmland of local importance. Explore methods to locate utility-scale solar facilities in a manner that will compliment cattle grazing.
- ◆ **Biological Resources.** Locate solar facilities away from sensitive habitat for special-status plant and animal species. Work with property owners as appropriate on biological assessments for large properties in the county to determine locations for utility-scale solar energy systems with the least impacts to biological resources.
- ◆ **Scenic Quality.** Design and locate new solar facilities to protect the unique visual and scenic character of Butte County.

- ◆ **Property Owner Coordination.** Recognize that the Solar Overlay Zone will add a new, voluntary option that property owners may take advantage of. Coordinate with property owners to identify interested parties and incorporate their input into the provisions of the Overlay Zone.
- ◆ **Local Preferences.** Engage local communities and neighborhoods in decision-making for siting new utility-scale solar facilities.
- ◆ **Broadly Shared Benefits.** Promote a clean energy future that benefits the citizens of Butte County.
- ◆ **Permit Streamlining.** Lower regulatory barriers to clean energy and permit processing times while minimizing negative impacts from new solar facilities.
- ◆ **Utilities Coordination.** Incorporate utility-scale planning into the creation of the Solar Energy Overlay.
- ◆ **Impact Assessment.** Identify and appropriately address potential environmental impacts before approving new solar facilities.
- ◆ **Residential Neighborhoods.** Ensure that the location, design, and operation of new utility-scale solar facilities minimize negative impacts to residential neighborhoods and properties.
- ◆ **Technological Requirements.** Consider the technological and economic requirements of energy providers when identifying locations for utility-scale solar.
- ◆ **Stakeholder Cooperation.** Build partnerships between cities, utilities, businesses, and residents in both urban and rural areas to plan for a shared clean energy future.
- ◆ **Land Use Planning.** Provide consistency with the Butte County General Plan, Zoning Ordinance, and Climate Action Plan.

ATTACHMENT B

Draft Solar Overlay Zone

June 10, and June 11, 2015

Public Workshop Summaries



PowerButte: Solar Overlay Zone

First Community Workshops

June 10 and 11, 2015

WORKSHOP SUMMARY

The PowerButte Solar Overlay project held its first set of community workshops on June 10 and 11, 2015. On June 10, approximately 20 people gathered at the Southside Community Center in Oroville; a slightly larger crowd of about 25 people attended the workshop at the Lakeside Pavilion in Chico the following evening. Both workshops followed the same format: County staff and consultants introduced the workshop attendees to the project, and then asked the participants to share their insights into some fundamental questions about utility-scale solar in Butte County. This format was intended to accomplish two goals: 1) Introduce the community to the project and build public awareness of it; and 2) Start the process to develop a vision and guiding principles for the Solar Overlay Zone.

Each workshop began with a welcome and introduction from Tim Snellings, Butte County Development Services Director. Ben Noble, the County's consultant, then presented an overview of the Solar Overlay project, including its goals, benefits, policy background, and process. Participants asked questions about the process, data sources and analysis, existing regulations for solar projects, other types of renewable energy, and other clarifications about the project. Following the question-and-answer period, County staff and consultants facilitated a large-group discussion to gather input on the project's vision and guiding principles using the following four questions to spark discussion. A brief summary of the input received for each question is provided below; more detailed notes are attached to this summary.

◆ What benefits of solar energy are most important to you?

Participants highlighted the general benefits of reducing dependence on fossil fuels and supporting long-term clean energy, as well as reducing power costs. Participants also noted that the project would reduce risks for utility developers, although there were concerns that the project may only benefit the utility companies and developers, rather than also Butte County residents.

◆ What potential negative impacts of solar energy are of greatest concern? How can they be minimized?

Most participants expressed concern about aesthetics impacts, suggesting that they be minimized through low-profile and other design approaches, zoning requirements, and technological innovations. One person suggested a design competition for local artists to design visual impact mitigation approaches. Participants were also concerned about projects reducing nearby property values, and suggested potential mitigation by providing free power to affected landowners. There were also concerns about impacts on sensitive species and habitats, with suggestions to avoid undeveloped land

and focus on parking lots, roads, and other hard surfaces. Some participants also suggested that impacts be generally mitigated by only streamlining projects in ideal locations with limited impacts, requiring more substantial review in other, less ideal locations.

◆ **Where are the most appropriate places in Butte County for new solar energy installations? What places should be avoided?**

In general, participants were supportive of projects in groundwater recharge areas (i.e. permeable areas where water can percolate into underground aquifers), near transmission lines and related infrastructure, places that are already impacted visually or with hazards, and places where there aren't services and utilities to support other types of development; participants cautioned against locating projects in areas susceptible to fog, hillsides, habitat for sensitive and migratory species, wetlands, and sensitive geologic areas. Although no one place generated complete support, at least some participants suggested that initial analysis focus on the area between Highways 70 and 99 between Chico and Oroville, including an area north of Oroville near a PG&E facility; the area north of Chico, east of Highway 99; the Neal Road landfill buffer area; Nance Canyon; Table Mountain; and the powerlines along lower woodland areas.

◆ **How can solar installations preserve compatibility with agricultural operations?**

Participants disagreed on whether utility-scale solar can be compatible with agricultural operations, with some suggesting that all agricultural land, including grazing, be avoided all together, or at least subject to a more involved permit process, while others felt that all agricultural lands, including prime farmland, should be considered for potential solar development.



DETAILED NOTES FROM
OROVILLE WORKSHOP

- Benefit: Create framework to attract utility developers.
- + - Removes / limits risk for developers.

+ Benefits: clean energy; future generations.

- + Benefits: reduce costs for Butte County residents?
- Some residents want to be off the grid.

①

- Fully support solar, but "bump in road:"
- Just benefit utilities?
- Consider whole population re: benefits / costs.

+ Benefit: Poor air quality here, so support getting off fossil fuel.

↳ Places: Consider fog in valley.

- Table Mountain may be a good place because out of fog.

②

- Places: Butte Valley
 - Recharge area
 - Grazing

- Area between 70 & 99 from Oroville → Chico
 - About half support.
 - Should consider

- North of Oroville: PG&E infrastructure.

- North of Chico, east of 99
 - Flooding

⑤

- Highway corridor blw Chico & Oroville

- Brownfields - e.g. Chico area

- Any place that has safety/toxics problems

- Recharge zones = perfect.

- Neal Rd. landfill hillside
 - Majority support; 2 opposed

- Possibly on top of landfill after closed.

- Buffer around landfill

④

→ Don't want huge swaths
up into hillsides. visibility

• Nance ~~Swath~~ Canyon

↳ Consider locations of
transmission lines

↳ Additional contaminated sites
in South Oronille (eg Koppers)

• Don't narrow too quickly
re: ag lands Political

Potential Negative Impacts:

- Aesthetics

• Can also reduce property
values. Possibly mitigate
by providing free electricity
to homeowner.

• Mitigate through design.
Rooftop solar getting better.
Maybe low-profile.

⑤

DETAILED NOTES FROM
CHICO WORKSHOP

GP cont: If convert open lands, should be case-by-case.

- Areas already visually-impacted
- Along hwy ok, but lots of places where you can hide.
- Urban areas - parking lots (trees don't survive there). Schools, colleges, shopping malls. Rather freeway, but not Co. hwy/roads (Better than gas station signs). Landfill area.

- Negative impact: Biggest = aesthetics. Address thru zoning.

• Not permanent, so don't worry about technology Δ 's

- Places:

- No utilities
- No ag use

• Next to energy infrastructure

- Places: Power lines along lower woodland areas N of Chico
S of Granite

- Along hwy? - OK = some
not OK = others

- Native plant + society = data
source for threatened, end.
& rare species. Also consider
sensitive animal species.
Need to avoid

- Transition to foothills areas =
migratory species. Consider
geology that is sensitive

- GP: Streamlined process for Ind/Comm.
zoned land. But higher bar for all
as land, even if not "important"

• Benefits:

- Reduce dependence
of fossil fuels
- Cut costs for power
for all people → has
economic benefits
by more disposable income
- Entrepreneurs - make \$

• Need to pay attention to
technology Δ 's.

- Business model for Co.
needed

• What are Butte Co. government's incentives?
- Expenses; consider costs

• Benefit: produce power for 25 yrs.

• "Technology paralysis" - don't overly worry about evolving technology

- Advance planning helps to ID places where should go. (not case-by-case)

- Evaluate benefits of solar on all ag lands. Times are changing.

- Places: consider grid.

- Consider establishing tiers of level of appropriateness

• Easier permit processes for ideal locations.

- Not in env-sensitive areas
like wetlands & ag lands

- Negative impacts:

- Areas supporting birds, animals, plants.

- To minimize:

- Focus on urban / hard surfaces
Parking lots, roads, etc. Even
grazing doesn't make sense.

- Avoid: wild places.

- Open area bird species:

- Swainson's Hawk, burrowing owl,
tri-colored blackbird

- Env. resources protected by
State / Federal laws, regardless
of what Co. does.

EXHIBIT 4

COMMUNITY CHOICE AGGREGATION



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MEMORANDUM

DATE: August 25, 2015
TO: Board of Supervisors
FROM: Jennifer Macarthy, Deputy Administrative Officer - Economic Development
RE: Exhibit 4 - Community Choice Aggregation

BACKGROUND

Energy costs can be a deciding factor for business as they consider expansion of an existing company, or the location of a new development. To address this, the Butte County Regional Economic Development Strategy, which was approved by the Board of Supervisors in February 2014, included an action item to “Explore opportunities related to increased energy savings for business and residential users, including both projects and programs related to energy efficiency and energy generation”.

In addition, over the past year, several businesses and business groups within the County of Butte have been discussing the need to evaluate alternative energy opportunities to reduce energy costs for business, to encourage business expansion and business recruitment. Specifically, the Manufacturers Support Readiness Team, which is an organization consisting of some of the larger manufacturing companies within the County, has requested that the County consider energy alternatives, including the option of Community Choice Aggregation.

COMMUNITY CHOICE AGGREGATION

Description

California State Assembly Bill 117 (AB 117), passed and signed into law in 2002, gave California cities and counties the ability to aggregate the electric loads of residents, business, and public facilities to facilitate the purchase and sale of electrical energy in a more competitive market. This process is called Community Choice Aggregation. Community Choice Aggregation (CCA) allows local governments to become an energy purveyor and to purchase electrical energy on the wholesale market from any source. All Investor Owner Utility (IOU) customers within the area defined as a CCA would be included in CCA unless they chose to opt out of CCA and remain customers of the IOU.

A CCA's primary mission is to serve its local constituents, rather than to maximize profits for shareholders, as is the case with an IOU. Although the IOU, such as PG&E, would no longer be responsible for the purchase and supply of energy in the CCA model, the IOU would still own the poles and wires, and electricity would continue to be delivered using the IOU's transmission and distribution lines. IOU's are obligated to continue to deliver electricity to CCA customers under the same terms and conditions as their own customers, perform billing duties and provide customer service.

Because the CCA purchases the power, and is responsible for setting the energy rates, CCA customers pay a potentially lower cost for the electricity itself. A Cost Responsibility Surcharge (CRS) is added by the IOU to cover the cost of delivering the electricity. The CRS, regulated by the California Public Utility Commission (CPUC), is charged directly to customers as part of their monthly bill, and helps to ensure that customers that stay with the IOU do not have increases in their rates as a result of other customers joining the CCA.

Established CCAs

Currently, there are three operational CCA programs in California. The first program ever to become operational within the State of California was Marin Clean Energy (www.mcecleanenergy.org) in 2010. Marin Clean Energy provides service to Marin County, unincorporated Napa County, and cities of Benicia, El Cerrito, Richmond and San Pablo through a Joint Powers Agreement (JPA). Sonoma Clean Power (www.sonomacleanpower.org) has been operational since May 2014. Sonoma Clean Power includes the unincorporated area of Sonoma, Cloverdale, Cotati, Petaluma, Rohnert Park, Santa Rosa, Sebastopol, Sonoma, and the Town of Windsor. Sonoma Clean Energy is also operated by a JPA. Lancaster Choice Energy (www.lancasterchoiceenergy.com) was the first municipally operated CCA in the State of California. The Lancaster program, which only serves the City of Lancaster, became operational in May 2015.

In addition to the operational CCAs, there are numerous other communities throughout the State that are in various stages of program review and implementation.

Benefits and Risks

There are a variety of potential benefits from a CCA. These include such items as:

- Potentially reduced energy costs through the negotiation of energy prices below those offered by investor-owned utilities, or from CCA-owned or financed generation.
- Increased price stability through a diversified energy supply portfolio, which includes long-term power purchase agreements and ownership of low-cost generating resources.
- Customer choice in selecting or influencing the selection of energy resources serving the community.
- Local accountability of rate-setting, administration of the CCA, and the selection of energy resources.
- Affordable renewable energy through economies of scale achieved by aggregating customer load and using public financing.
- Environmental benefits related to the procurement of energy from renewable and/or low-emission resources.
- Opportunities to influence and implement effective energy efficiency and demand side management programs within the community.
- Ability to offer incentivized rates to businesses that create new jobs.

There are also a number of potential risks associated with establishing a CCA. Examples of potential risks include:

- Potential reaction of the IOUs as more customers switch to CCAs.
- Cost Responsibility Surcharge can offset the rate benefits to CCA customers.
- Rates could end up higher than current rates.

- Legislative climate could reduce some of the benefits of CCAs. If the legislature continues to pursue increasing the requirement for alternative energy in IOU portfolios, the environmental benefits of CCAs may reduce.

PROCESS FOR ESTABLISHMENT OF CCA

The process for the establishment of the CCA involves three phases.

Phase I – Feasibility Evaluation. This phase addresses the feasibility of creating a CCA, including a careful consideration of potential benefits and risks. This process includes the definition of objectives and evaluation of the economic feasibility of achieving those objectives given local circumstances, including financial, political, administrative, and regulatory considerations. This phase includes outreach to other jurisdictions potentially interested in joining the CCA, forming a steering committee, load data procurement, hiring consultant services to help manage and prepare the feasibility study, preparation of the feasibility study, public outreach, and development of initial implementation plans. The costs associated with funding this could be repaid, with interest, in the future by the JPA if formed. This was accomplished in Sonoma Clean Power within 2 years after forming the JPA.

Phase II – Adoption of Resolution Proclaiming Intention to Form CCA. If the feasibility analysis results in a decision to pursue a CCA, the next step is to pass a resolution by the local government(s) proclaiming its intention to form a CCA, and prepare the Implementation Plan for submittal to and for consideration by the CPUC. The Implementation Plan proposes how the CCA will be set up and how it will function. Important issues to be addressed include the operational structure, a detailed discussion of source(s) of electricity, rate setting, participation with other local jurisdictions (e.g. JPA), rights and responsibilities of program participants, and a Statement of Intent. The Statement of Intent addresses the issues of universal access, reliability, customer class equity, and other requirements. A key component of CPUC consideration is determination of the Cost Responsibility Surcharge (CRS), which is imposed on CCA customers to shield remaining customers of the IOU from any increases in cost that would otherwise result from customers switching to the CCA. The calculation of the CRS is based on a number of factors, including past costs incurred by the IOU that are still being paid off by the rate payers. These costs are transferred to CCA customers who pay the CRS directly on their monthly bill.

Phase III – Enrollment. Once the CCA becomes operational, all customers in the service area are automatically enrolled. However, customers have the ability to opt out of the CCA without penalties during a specified enrollment period. During this time period, all applicable accounts of new CCA customers are transferred to the new supplier.

ORGANIZATION OF CCA

CCAs may be organized in a number of different ways. Examples include:

1. Join an existing CCA that is currently operational in another County through a Joint Powers Agreement (JPA) (Marin County model)
2. Develop a CCA which includes the local jurisdictions within the County through the creation of a new JPA (Sonoma model)
3. Develop a CCE which includes the local jurisdictions within the County and potentially other surrounding interested counties through the creation of a JPA (Sonoma and Marin models)
4. Establish a CCA only for customers in the unincorporated County (Lancaster model).

During Phase I of the CCA establishment process, an analysis of the preferred structure would be conducted. During Phase II, the organizational structure would be created.

COST

The cost of the implementation of a Butte County CCA has not been analyzed. The Sonoma County, and Marin County CCA programs were developed at a cost of approximately \$1.5-\$2 million. This cost was recouped through the revenues of the CCA. In the case of the Sonoma County CCA, they were able to recoup the start-up costs within 2 years of operation. Since these two CCAs were developed, there are many more tools available for the implementation stage. Staff believes that through the use of the available tools/models, coupled with the expertise of County staff, Butte County would be able to complete the various phases of implementation at a lower cost. Assistance may also be provided by the Sonoma and Marin CCAs as there is 'strength in numbers' for CCAs to work together in this complex energy industry.

NEXT STEPS

If the Board of Supervisors is interested in having staff continue to evaluate the feasibility of the creation of a CCA in Butte County, the following initial steps would be taken:

1. Discuss the CCA concept with local jurisdictions, surrounding counties, businesses, and other stakeholders to gauge interest and concern with the concept.
2. Detail the tasks associated with the CCA formation process.
3. Determine potential costs and responsibilities associated with each task.
4. Develop alternative funding sources to cover the cost of the formation process.
5. Provide all findings to the Board of Supervisors for final consideration prior to commencing with the implementation process.

ACTION REQUESTED

Provide staff direction on evaluating CCA as an energy alternative for Butte County, and authorize staff to move forward with next steps in the evaluation process.