



Contra
Costa
County

To: Board of Supervisors
From: John Kopchik, Director, Conservation & Development Department
Date: December 18, 2018

Subject: ACCEPT Renewable Resource Potential Study and Provide Direction

RECOMMENDATION(S):

1. ACCEPT the Renewable Resource Potential Study, (Study) as recommended by the Conservation and Development Director;
2. DIRECT the Department of Conservation and Development to take the following steps to further analyze and address through future Board actions the findings and recommendations of the Study:

APPROVE

OTHER

RECOMMENDATION OF CNTY ADMINISTRATOR

RECOMMENDATION OF BOARD COMMITTEE

Action of Board On: **12/18/2018** APPROVED AS RECOMMENDED OTHER

Clerks Notes:

VOTE OF SUPERVISORS

I hereby certify that this is a true and correct copy of an action taken and entered on the minutes of the Board of Supervisors on the date shown.

ATTESTED: December 18, 2018

Contact: Jody London,
925-674-7871

David J. Twa, County Administrator and Clerk of the Board of Supervisors

By: , Deputy

cc:

RECOMMENDATION(S): (CONTD)

- Prepare and analyze draft amendments to the County General Plan and Zoning Code that would expand the area within which an applicant could apply for a Land Use Permit. This would include additional public outreach, review and consideration by the Planning Commission and a final determination by the Board. Of the two Options shown in the attached Figures 1-4, staff recommends the larger Option 1;
- Explore incentives and other means of encouraging the construction of solar energy projects on commercial rooftops, parking lots, and underutilized land in commercial, industrial, and other infill areas and seek collaboration with MCE and other potential partners to propose policies to achieve this;
- Consider and evaluate other findings and recommendations of the Study as part of the projects currently underway to update the County's General Plan and Climate Action Plan.

FISCAL IMPACT:

The Study has been largely funded by a \$49,000 grant from the California Strategic Growth Council. Seven participating cities contributed additional funds to pay for additional analysis for their City. Land Development Funds covered some staff and consulting costs. Work on future actions would be covered by the Land Development Fund and the Sustainability Coordinator using existing staff and budget.

BACKGROUND:

Summary

In 2017, Contra Costa County (County) received a grant from the California Strategic Growth Council to study the potential for renewable energy generation within the County and evaluate options for updating zoning ordinances to facilitate the development of renewable resources in the County, while remaining mindful of long-term planning considerations and potential tradeoffs. The project also calls for the Department of Conservation and Development (DCD), which is managing the project, to work with the communities of Bay Point, Rodeo, and North Richmond to explore potential opportunities to develop community renewable energy projects that would allow residents to purchase renewable energy.

The Renewable Resource Potential Study (Study) finds that the greatest opportunity to increase the amount of renewable energy generated in the County is with solar energy, in two forms. The first is rooftop solar installed on buildings and parking lots in the developed, urbanized areas of the County. The second is with ground-mounted solar in the unincorporated areas of the County, both in "infill" areas such as industrial buffers and brownfields and in areas currently zoned for agriculture.

The Study includes a number of recommendations for the County to consider, including the development of incentives to improve the economics of "in-fill" solar development in urbanized areas, and changes to the the County General Plan and Zoning Code to facilitate greater opportunity of solar energy generation in less developed areas of the County. Staff recommend the Board provide direction to DCD to seek collaboration with MCE to develop programs that incentivize construction of rooftop parking lot and infill solar installations, prepare amendments to the General Plan and Zoning Code to update permitting requirements to facilitate greater solar development in specified areas and consider other recommendations through the General Plan and CAP update scheduled to be completed in 2020.

Prior Board Action to Support Renewable Energy

In December 2015, the Board of Supervisors adopted a Climate Action Plan (CAP). The CAP sets goals

for installing renewable energy on public land (i.e., County facilities), and for installing renewable energy on homes and businesses. In May 2017, the Board opted to join MCE, a community choice aggregator. A primary factor in the Board’s decision to join MCE was the opportunity to increase the amount of renewable energy used in Contra Costa County. Eight cities also opted to join MCE in 2017, bringing the total number of Contra Costa jurisdictions that are MCE members to 14.

In August 2017, the Board of Supervisors joined the We Are Still In Coalition, which is intended to demonstrate that major sub-national leaders in the United States are still committed to ambitious action on climate change, notwithstanding the decision by the U.S. Administration to withdraw from the Paris Climate Accord. The Renewable Resource Potential Study is an important contribution by the County to We Are Still In and is listed on the We Are Still In website.

The State of California has long been a leader on renewable energy issues. In 2006, California adopted Assembly Bill 32, the Global Warming Solutions Act. AB 32 was the first program in the country to take a comprehensive, long-term approach to addressing climate change, and does so in a way that aims to improve the environment and natural resources while maintaining a robust economy. Since the passage of AB 32, California has passed more laws that further the State’s commitment to clean and healthy communities, even as impacts of a changing climate have become more pronounced. In September 2018, Governor Brown signed Senate Bill 100, which commits California to obtaining 60 percent of its electricity from carbon-free sources by 2030, and 100 percent by 2045. The Governor also issued an executive order establishing a target for the State to become carbon neutral by the same year. California is the largest economy to make these commitments. The Renewable Resource Potential Study provides Contra Costa County with data on which to chart a path to ensuring the County helps the State achieve its ambitious clean energy goals.

Development of the Study

Through a competitive solicitation process, DCD selected the Cadmus Group (Cadmus) to perform the technical analysis of resource potential and evaluate options for reducing zoning barriers (Renewable Resource Potential Study, or Study). The analysis process began in March 2018 and looked at potential for solar, wind, biomass, and biogas energy. As part of the project development process, DCD hosted four stakeholder meetings to solicit ideas and input, on the following dates: May 24, 2018; July 25, 2018; September 27, 2018; and October 29, 2018. Participants in the meetings included renewable energy developers, conservation and environmental groups, members of the County’s Sustainability Commission, MCE, PG&E, staff from County departments, staff from interested cities, and others. Cadmus presented an overview of the Study to the Sustainability Commission at its June meeting. DCD staff have provided ongoing updates on the study to the Board of Supervisors’ Ad Hoc Committee on Sustainability, which directed staff to bring this report to the Board. The draft report was posted for public review and comment prior to the final stakeholder meeting; six groups submitted written comments.

Several of the cities in the County had expressed interest in similar analysis of opportunities in their jurisdictions. The project team worked with seven cities that responded affirmatively to the opportunity to be included and contributed funding. For these cities – Concord, Lafayette, Martinez, Oakley, Pinole, Pleasant Hill, and Walnut Creek – the team assessed the solar resources that could be sited on City-owned facilities (and in some cases on properties owned by other parties.)

Findings

Technical Resource Potential

The Renewable Resource Potential Study is an important next step for bringing more renewable energy to Contra Costa County. Looking at technical potential – including detailed analysis of land use opportunities and constraints but not project economics, or other factors – the Study finds that there is significant potential for renewable energy here. Some of that energy can be used entirely by the customer at the site where it is installed; there are additional opportunities to install renewable energy that will then be sold. It is in these instances of commercial sale of electricity where it is important to consider long-term planning considerations and potential trade-offs.

The Study finds that there is potential for 50% to 83% of the electricity consumed in Contra Costa County to come from local renewable energy sources. (See Table 1, Renewable Resource Technical Potential in Contra Costa County.) Rooftop solar on existing buildings offers the highest potential, both in terms of capacity and annual generation. There are also opportunities to generate solar electricity from shade structures installed in parking lots, on urban land unlikely to be developed, and on agricultural land with relatively low constraints. The Study examines solar opportunities and land use tradeoffs in detail.

In terms of wind energy, Contra Costa County has been an early leader with the wind developments in the Altamont Pass in the eastern part of the County. This Study reveals that there is additional technical potential for wind power, including the industrial buffer lands east of Rodeo and the hills south and west of Bay Point. There may also be opportunities with emerging small-scale wind technology.

While there is some technical potential to generate electricity from biomass and biogas technologies, at this time the Study does not find that these sectors are likely to contribute nearly as much renewable energy as the other sectors.

Land Use Priorities

By land mass, Contra Costa County is the eighth-smallest county in the state, containing about 0.5% of the state's land mass, yet it has the ninth-largest population of California's 58 counties. In considering options for meeting electricity demand from renewable resources located within the County, there is a larger load to serve and less land on which to develop energy resources. The value of available land in counties with higher population densities, like Contra Costa, will on average likely be higher than the value of land in less densely populated counties. Contra Costa County has a voter-approved urban limit line, within which development is directed. Much of the land outside the urban limit line is dedicated to agriculture, parks, and habitat conservation, all important priorities for the County's economy, environment, and quality of life.

As noted above, Contra Costa already has a significant amount of installed solar and wind energy capacity (See attached Table 2). In looking at other counties in the region, Contra Costa has the most existing solar photovoltaic (PV) capacity of any of those counties. Several years ago the County adopted an online permit process for rooftop PV, the electricity for which is used on site. As indicated in Table 3, the County processes about 1,500 applications for rooftop solar per year, up from 315 in 2008. In 2015, the County implemented online permits for rooftop solar, and installations have increased since. The County has earned a Bronze designation from the U.S. Department of Energy's SolSmart program, which recognizes communities' actions to reduce solar soft costs and barriers and action to advance local solar markets.

In terms of ground-mounted solar, which is often the form of commercial solar projects, the County until December 2017 did not have an ordinance that allowed commercial solar resources where the energy produced would be sold to an off-site purchaser. The Study shows that significant infill opportunities do exist. These would pose very little tradeoffs as these lands may not have another economic use and

generally do not support agriculture nor are valued for their scenic qualities. The Study also shows that additional low-tradeoff land acreage falls within zones where ground-mounted solar is not a permitted use. Solar developers often prefer to evaluate sites on farmland of marginal value as these may offer lower site preparation, acquisition, and mitigation costs. Figure 19 from the Study shows the areas in the County with technical potential for ground-mounted solar.

Policy Considerations

As the County considers what forms of renewable electricity to encourage be developed, there are a number of policy considerations. The Study examines which counties have had the most success developing renewable resources. It identifies current and potential zoning policies for rooftop and ground-mounted solar, and for large- and small-scale wind. For biomass and biogas energy, the Study focuses more on coordination with local refuse haulers and waste sources than on developing projects within the County.

There is significant support among stakeholders for developing solar on rooftops, parking lots and urban land unlikely to be developed for other uses. While there is a large amount of technical potential for rooftop and parking lot solar, those projects typically come at a higher cost than large-scale solar and wind. The zoning policy that has drawn the most attention to date is whether to permit ground-mounted solar in areas currently designated for farmland.

There is strong interest in seeing the County lead by example by installing more solar and potentially small-scale wind on County facilities and properties.

Recommended actions

The Study identifies various actions the County can consider to facilitate the development of more renewable energy within the County, as follows:

The Study makes recommendations for ground-mounted solar on parking lots and “urban land unlikely to be developed.” However, the Study also identifies that such solar projects in urbanized areas tend to be relatively expensive to develop due to high land values and size restrictions that reduce economies of scale. The challenge of developing such projects is to create economic conditions that incentivize and justify their construction. The Study suggests that the County seek to collaborate with MCE to explore incentives and related opportunities to develop solar on parking lots or other urban land unlikely to be developed. MCE was selected by the Board in 2017 as the County's Community Choice Energy provider, and part of the justification for the County participating in MCE was to encourage greater local renewable energy generation.

The Study also identifies that "green field" ground-mounted solar projects can be relatively less expensive due to the potential for larger installations and greater economies of scale. However, such projects may conflict with competing high-priority land uses in undeveloped areas of the County, such as agriculture, parks and open space. The Study recommends the County consider amending its zoning code to update and define the criteria for permitting commercial-scale solar projects in specified zoning districts, such as parcels zoned for agricultural use that are not in high quality agricultural areas.

The Study makes a variety of other recommendations concerning actions the County may wish to pursue to encourage solar and other forms of renewable development, such as the following:

Wind energy. The County’s ordinance for large-scale wind has not been updated since the 1980s, nor has the County received applications for new large wind projects. Because wind energy technology is

evolving to make small-scale projects more viable, the County may wish to consider how it can proactively update its zoning to address these technological changes.

Biomass and biogas. Some of the waste management operators in the County, both solid waste and waste water, have been exploring opportunities to collect biogas onsite, which they could then use to generate electricity for consumption both onsite and for potential sale.

Staff recommends the Board direct DCD to consider these and the other findings and recommendations of the Study as the department prepares updates to the County General Plan and Climate Action Plan, which are currently underway.

Resource Potential in Disadvantaged Communities

While the Study does not examine the economic and political feasibility of community energy projects in the communities of Bay Point, Rodeo, and North Richmond, it confirms that there is potential in all those communities for solar and wind energy. As part of the Strategic Growth Council grant, DCD is investigating the current status of State laws and programs for developing projects that could economically serve residents of these communities. On November 27, the California Department of Community Services and Development announced a \$2.4 million award to Grid Alternatives for community solar project in Richmond. Aside from this award, DCD staff is finding that most developers do not believe the current regulatory and pricing structures create sufficient incentives to install community solar projects, where residents would be able to purchase electricity from a project located in or near their community. It can be challenging for people who rent and/or are low-income to install solar panels on their roofs.

CONSEQUENCE OF NEGATIVE ACTION:

Failure to accept the report and provide direction to staff would hinder the development of more renewable energy in Contra Costa County.

CHILDREN'S IMPACT STATEMENT:

N/A

ATTACHMENTS

Renewable Resource Potential Study

Contra Costa County Renewable Resource Technical Potential

Table 2. Existing Renewable Capacity in Bay Area Region

Table 3. Rooftop Solar Permits

Option 1, Figure 1- Land potentially suitable for solar installations on Ag land

Option 2, Figure 2- Land potentially suitable for solar installations on Ag land

Figure 3- Two views of the southern portion of Option 1

Figure 4- Two views of the southern portion of Option 2

Comments on Draft Report

Figure 19- Potential Ground Mounted Solar Installations

PowerPoint Presentation