

PROPOSED POLICIES FOR SOLAR ENERGY FACILITIES IN RURAL ALAMEDA COUNTY

Introduction

On April 12, 2011 the Board of Supervisors heard a report from staff on the need for policies to address issues concerning the development of Solar Energy Facilities (SEFs) in the County. With the increased demand for solar energy resulting from the State's Renewables Portfolio Standard (RPS) of 33% by 2020 and State and federal financial incentive programs to encourage the development of SEFs, interest in locating SEFs in Alameda County has been increasing rapidly. Since this interest has been primarily in the rural areas of the East County, the Board directed staff to develop a set of policies for determining appropriate locations in rural areas for large-scale solar photovoltaic facilities that generate electricity primarily for use off-site. Based on the Board's direction, this analysis focuses mainly on the rural County; however, staff recognizes that it is also the Board's intent to promote the development of solar facilities in the urban unincorporated areas. To that end, upon completion of this process for rural areas, staff will undertake a similar process to address the development of solar facilities in the urban area.

While development of solar power generation is desirable for many reasons, like most technologies and land uses, it requires the consideration of a number of sometimes competing factors. The aim of the policy direction proposed in this paper is to find a balance between these factors. Taking into consideration public input, as well as policies, ordinances, and mitigation measures that have been adopted or are being considered by other jurisdictions in the state, this paper proposes concepts to be considered in amendments to the County's General Plan and Zoning Ordinance. The general plan and ordinance amendments will require a public process that will include public hearings before various advisory bodies as well as a California Environmental Quality Act (CEQA) analysis. It should also be noted that a site-specific CEQA analysis would be required for each SEF development application.

In preparing this paper, staff received comments from the public regarding issues of concern at three public meetings. The County Agricultural Advisory Committee discussed issues related to solar facilities at their regular meeting on May 24th. Staff also held community meetings on June 16th and June 23rd. A variety of stakeholders were invited to attend these meetings, including solar energy proponents, environmental groups, agricultural interests, neighboring jurisdictions, regional entities, and state and federal agencies. A summary of the comments made at these three meetings is attached to this report. Staff also received written comments from the East Bay Chapter of the California Native Plant Society, the Tri-Valley Conservancy, Cool Earth Solar, and Livermore Area Recreation and Park District (LARPD). These documents are also attached to this report.

Policy Issues

Unlike urbanized land, undeveloped lands in the rural areas of Alameda County have numerous inherent natural resource and agricultural values; and soil productivity and prime agricultural land, biological resources, open space visual values, watershed and natural landforms are generally important in this area. These types of resources are vulnerable to development, and construction of large-scale solar energy facilities, the kind that can produce large amounts of energy for general supply to the electrical grid, would utilize large amounts of land that frequently bear one or more of these valuable characteristics. The impacts associated with larger facilities may result in unavoidable adverse impacts for years to come as hundreds of acres become unavailable for other uses important to East County residents, such as for agriculture and natural resource protection. The East County Area Plan (ECAP), which serves as the General Plan for most of the rural areas of the County, already contains many policies that address protection of vulnerable resources; however, some amendments to existing policies and additional policies specific to the development of SEFs are recommended below.

Proposed Policy #1 - Restoration of Agricultural Land after Closure of SEF

Given the nature of the structural supports for solar equipment, the installation of a SEF does not preclude the restoration of the agricultural productivity of the land if the SEF ceases operation and the equipment is removed. Staff recommends that a restoration plan with financial assurances be required for every utility-scaled SEF in the event that the facility closes down or is abandoned to ensure that the agricultural productivity will not be permanently lost. The restoration plan should be approved by the decision-making body at the time of permit approval and should include the following at a minimum:

- A plan and timeframe for removal of all equipment and components when they are no longer in use;
- Removal of graveled areas and access roads and restoration of the surface grade and placement of topsoil after removal of all structures and equipment including grading, revegetation and erosion control plans to return the site to an appropriate end use;
- Revegetation of disturbed areas that will not be used for cultivated agriculture with native seed mixes and plant species suitable to the area;
- A cost estimate for all reclamation activities;
- Assurance that handling and disposal of waste resulting from the removal of equipment will comply with all applicable federal, state and county regulations; and
- A statement signed by the owner/operator that they take full responsibility for restoring the site in accordance with the Restoration Plan upon cessation of use.

In addition, prior to the issuance of a Building Permit for construction of the solar facility, a Financial Assurance or security in a form and amount acceptable to the County should be required to secure the expense of dismantling and removing the SEF and restoring the site. A SEF that ceases to produce electricity on a continuous basis for twelve months should be considered abandoned and the owner/operator would be required to complete the requirements in the restoration plan.

Proposed Policy #2 - Preservation of Productive Agricultural Soils

SEFs on agricultural land are likely to remove significant acreage from potential agricultural production. In the case of projects where lands and soils have been designated by the California Department of Conservation Farmland Mapping and Monitoring Program as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, or where the land has been placed under an Agricultural Conservation Contract (Williamson Act Contract, WAC), the loss of productivity can be even more important.

The ECAP already contains a few policies that demonstrate the County's commitment to the preservation of highly productive agricultural soils. ECAP Policy 71 states: "The County shall conserve prime soils (Class I and Class II, as defined by the USDA Soil Conservation Service Land Capability Classification) and Farmland of Statewide Importance and Unique Farmland (as defined by the California Department of Conservation Farmland Mapping and Monitoring Program) outside the Urban Growth Boundary."

At the time the ECAP was adopted in 1994, the Mountain House area in Alameda County was subject to significant development pressure due to the approval of the Mountain House community in San Joaquin County, just across the boundary between the two counties. Policy 72 of the ECAP states, "The County shall preserve the Mountain House area for intensive agricultural use." The ECAP defines intensive agricultural use as "... high yield agricultural production including vineyards, orchards, and row crops as distinguished from low-intensity agriculture such as cattle and horse grazing." Irrigated row crops are currently the typical agricultural use in the Mountain House area.

In light of the current need that exists to develop capacity to generate renewable energy, staff believes it is appropriate for the County to weigh the value of the Mountain House area for agricultural uses relative to the value of the area for the generation of solar power to determine what is in the best interest of the County. Staff recommends that Policy 72 be amended to allow greater flexibility for the consideration of uses that may be in the public interest besides intensive agriculture.

To ensure mitigation of the loss of highly productive agricultural land, whether temporary or permanent, staff recommends that the following policy be added to the ECAP:

For SEFs proposed on lands designated as Prime, Farmlands of State-wide Importance, or Unique Farmlands by the California Department of Conservation Farmland Mapping and Monitoring Program, the County shall require the applicant to place farmland of equivalent quality within Alameda County under quasi-permanent easement at a 1:1 ratio of farmland used for solar installation. The land under easement shall be maintained in a state of equivalent (or better) productivity compared to the land developed, for the lifetime of the SEFs. If no suitable land is available within Alameda County, lands in adjacent counties may be similarly conserved at a ratio to be determined by the Planning Commission / BZA. If at any time the solar installation is removed and the project site restored to its original condition and use, the conservation easements on the mitigation lands may be lifted.

Proposed Policy #3 – Local Host Impact Fee/Development Agreement

For Alameda County to serve as the host community for large scale SEFs, it is acknowledged that such a discretionary action allows the County to consider payment by the project proponents of a local host fee to address the unprecedented impact large utility-scaled facilities have on East County lands. In order to alleviate potential on-going impacts, Alameda County will consider a fee on large SEFs. Riverside County recently adopted a franchise fee of 2 percent that would apply to gross annual revenues on large-scale solar projects that need county permits. The fee is intended to lessen the long-term effects of large-scale solar facilities. SEF developers in Tulare County must enter into a developer agreement with the County which, among other things, requires developers to pay an annual per megawatt fee “to support cost recovery for public service impacts” for the duration of the use permit.

There are a variety of uses such funds could be used for to address long term impacts; for example, given the (potentially long-term) loss of productive agricultural land, such funds could support agricultural activities in other parts of the East County, namely the South Livermore Valley by providing opportunities for agricultural infrastructure improvements and other viticulture-enhancing programs. Similarly, given the importance of finding an urban solution to renewable solar energy, such funds could be used to facilitate and create Solar Empowerment Zones as promoted by the County’s adopted Community Climate Action Plan.

Proposed Policy #4 – Limitations for SEFs in South Livermore Valley Area Plan

The “CA” (Cultivated Agriculture Overlay) District was created to be combined with the “A” (Agricultural) District to implement the land use policies and standards for the Vineyard Area of the South Livermore Valley Area Plan (SLVAP). Given the County’s long-established commitment to promote and preserve cultivated agriculture in the South Livermore Valley, staff recommends that SEFs be limited in this district to building mounted structures or ground mounted facilities over existing impervious surfaces within the designated building envelope.

Proposed Permit Requirements for Solar Energy Facilities in the “CA” (Cultivated Agricultural Overlay) Combining District			
Building or Ground-mounted	Maximum Parcel Coverage	Prime or Unique Farmland or Farmland of Statewide Imp.?	Type of Permit Required
Building- mounted	NA	NA	Building Permits Only
Ground-mounted	Up to 500 square feet over existing impervious surface such as parking lot within the 2-acre building envelope	NA	Ministerial Permit
Ground-mounted	Up to half of an acre over existing impervious surface such as parking lot within the 2-acre building envelope	NA	Site Development Review (SDR) approved by Planning Director if specific standards are met

Other Applicable Existing Policies

As mentioned above, there are a variety of existing policies (mostly found in the ECAP) that may apply to SEFs for consideration during the project review phase. Many of the existing policies were put into place before the potential for large scale SEFs existed, and as such the policies may need to be revisited and amended to specifically address SEF impacts.

Williamson Act

In 2009, the Department of Conservation issued a policy paper regarding the placement of solar facilities on property under Williamson Act contract. A revised paper was issued earlier this year. The paper identifies four ways in which solar facilities may be located on property under contract: 1.) as a compatible use, subordinate to the primary agricultural use on the property; 2.) after the property owner has filed for non-renewal and the contract expires; 3.) upon cancellation of the contract pursuant to required statutory processes under appropriate circumstances; or 4.) upon purchase of the property under contract by a public agency through eminent domain, thereby nullifying the contract.

The County is in the process of revising its Williamson Act program. Draft Uniform Rule 2 would allow solar facilities as a compatible use, as defined by state statute, on non-prime farmland, as designated by the Williamson Act program. Coverage of the property would be limited to 10% of the parcel or 10 acres, whichever is smaller. Cancellation of the contract would be required for facilities that would cover a larger portion of the parcel, or would displace the agricultural operation entirely.

ECAP Policy 86 states, “The County shall not approve cancellation of Williamson Act contracts within or outside the County Urban Growth Boundary except where findings can be made in accordance with state law, and the cancellation is consistent with the Initiative. In no case shall contracts outside the Urban Growth Boundary be canceled for purposes inconsistent with agricultural or public facility uses. Prior to canceling any contract inside the County Urban Growth Boundary, the Board of Supervisors shall specifically find that there is insufficient non-contract land available within the Boundary to satisfy state-

mandated housing requirements. In making this finding, the County shall consider land that can be made available through reuse and rezoning of non-contract land.”

Incompatible Uses

Another consideration for the location of solar facilities in agricultural areas is compatibility with agricultural operations on adjacent properties. Dust or crop spraying related to adjacent agricultural activities may adversely affect the solar facility; while activities such as chemical weed abatement on the solar site may impact the agricultural activities. The County’s Right-to-Farm Ordinance provides agricultural operations some protection from conflicts with adjacent properties by establishing a process to resolve disputes.

ECAP Policy 73 states, “The County shall require buffers between those areas designated for agricultural use and new non-agricultural uses within agricultural areas or abutting parcels. The size, configuration and design of buffers shall be determined based on the characteristics of the project site and the intensity of the adjacent agricultural uses, and if applicable, the anticipated timing of future urbanization of adjacent agricultural land where such agricultural land is included in a phased growth plan. The buffer shall be located on the parcel for which a permit is sought and shall provide for the protection of the maximum amount of arable, pasture, and grazing land feasible.” Policy 74 states, “The County shall require that, where conflicts between a new use and existing use are anticipated, the burden of mitigating the conflicts be the responsibility of the new use. Policy 75 states, “The County shall enforce the provisions of the Alameda County Right-to-Farm Ordinance on all lands within and adjacent to agricultural areas.

Visual Resources

Near scenic corridors and parklands, viewsheds could be dramatically altered by the presence of tens or hundreds of acres of solar facility equipment. While fencing may screen views of the panels, the fencing itself may impact views by altering the natural landscape. ECAP Policy 115 states: “In all cases appropriate building materials, landscaping and screening shall be required to minimize the visual impact of development. Development shall blend with and be subordinate to the environment and character of the area where located, so as to be as unobtrusive as possible and not detract from the natural, open space or visual qualities of the area. To the maximum extent practicable, all exterior lighting must be located, designed and shielded so as to confine direct rays to the parcel where the lighting is located.”

The following ECAP policies would also address potential visual impacts related to the siting of SEFs in rural areas:

Policy 106: Structures may not be located on ridgelines or hilltops or where they will project above a ridgeline or hilltop as viewed from public roads, trails, parks and other public viewpoints unless there is no other site on the parcel for the structure or on a contiguous parcel in common ownership on or subsequent to the date this ordinance becomes effective. New parcels may not be created that have no building site other than a ridgeline or hilltop, or that would cause a structure to protrude above a ridgeline or hilltop, unless there is no other possible configuration.

Policy 108: To the extent possible, including by clustering if necessary, structures shall be located on that part of a parcel or on contiguous parcels in common ownership on or subsequent to the date this ordinance becomes effective, where the development is least visible to persons on public roads, trails, parks and other public viewpoints. This policy does not apply to agricultural structures to the extent it is necessary for agricultural purposes that they be located in more visible areas.

Policy 113: The County shall review development proposed adjacent to or near public parklands to ensure that views from parks and trails are maintained.

Policy 114: The County shall require the use of landscaping in both rural and urban areas to enhance the scenic quality of the area and to screen undesirable views. Choice of plants should be based on compatibility with surrounding vegetation, drought-tolerance, and suitability to site conditions; and in rural areas, habitat value and fire retardance.

Biological Resources

On biologically-important lands, habitats of sensitive or special-status plant and animal species could be altered or lost. The following ECAP goal pertains to biological resources: "To preserve a variety of plant communities and wildlife habitat." ECAP Policy 125 states: "The County shall encourage preservation of areas known to support special status species." In addition, Policy 123 states, "Where site-specific impacts on biological resources resulting from a proposed land use outside the Urban Growth Boundary are identified, the County shall encourage that mitigation is complementary to the goals and objectives of the ECAP. To that end, the County shall recommend that mitigation efforts occur in areas designated as "Resource Management" or on lands adjacent to or otherwise contiguous with these lands in order to establish a continuous open space system in East County and to provide for long term protection of biological resources."

Although much of the land being sought for solar facilities has been disturbed for agricultural use, its value for biological habitat is not unimportant. Given the variability in conditions on different sites, it is important that site specific biological surveys are conducted to determine appropriate biological mitigation for each proposed development.

Windfarm Policies

The ECAP includes a section of policies concerning the development of windfarms in the East County. At the time ECAP was adopted, the windfarms were already present in the Altamont, but SEFs were not contemplated. Staff recommends that this section be changed to address renewable energy in general; and that, as appropriate, existing policies be revised to include SEFs and new policies regarding solar be added. These additions would serve to clarify the County's position on the development of solar energy.

Additional ECAP Policies that would apply to SEF Applications

Alteration of Landforms

Policy 116: To the maximum extent possible, development shall be located and designed to conform with rather than change natural landforms. The alteration of natural topography, vegetation, and other characteristics by grading, excavating, filling or other development activity shall be minimized. To the extent feasible, access roads shall be consolidated and located where they are least visible from public view points.

Grading

Policy 117: The County shall require that where grading is necessary, the off-site visibility of cut and fill slopes and drainage improvements is minimized. Graded slopes shall be designed to simulate natural contours and support vegetation to blend with surrounding undisturbed slopes.

Policy 118: The County shall require that grading avoid areas containing large stands of mature, healthy vegetation, scenic natural formations, or natural watercourses.

Policy 119: The County shall require that access roads be sited and designed to minimize grading.

Slope

Policy 308: The County shall not permit development within any area outside the Urban Growth Boundary exceeding 25 percent slopes to minimize hazards associated with slope instability.

Utilities

Policy 120: The County shall require that utility lines be placed underground whenever feasible. When located above ground, utility lines and supporting structures shall be sited to minimize their visual impact.

Policy 285: The County shall facilitate the provision of adequate gas and electric service and facilities to serve existing and future needs while minimizing noise, electromagnetic, and visual impacts on existing and future residents.

Cultural Resources

Policy 137: The County shall require development to be designed to avoid cultural resources or, if avoidance is determined by the County to be infeasible, to include implement appropriate mitigation measures that offset the impacts.

Public Facilities

Policy 138: The County shall allow development and expansion of major public facilities (e.g. hospitals, research facilities, landfill sites, jails, etc.) in appropriate locations inside and outside the Urban Growth Boundary consistent with the policies and Land Use Diagram of the *East County Area Plan*.

Policy 218: The County shall allow development and expansion of public facilities (e.g., parks and recreational facilities; schools; child care facilities; police, fire, and emergency medical facilities; solid waste, water, storm drainage, flood control, subregional facilities; utilities etc.) in appropriate locations inside and outside the Urban Growth Boundary consistent with the policies and Land Use Diagram of the *East County Area Plan*.

Airport Safety

Policy 147: The County shall recognize the Livermore Municipal Airport as a regional resource and provide for its limited expansion.

Policy 150: The County shall recognize the Byron (East Contra Costa County) Airport as a regional resource, and shall work with Contra Costa County to ensure that land uses approved in Alameda County within the Byron Airport's referral area are compatible with the airport's operations.

Fire Hazard

Policy 320: The County shall consider, in reviewing development projects and subdivision of agricultural lands, the severity of natural hazards, potential damage from wildland and structural fires, the adequacy of fire protection services, road access, and the availability of an adequate water supply and pressure.

Policy 323: The County shall refer development applications to the County Fire Patrol, or local fire district, for review and recommendation.

ECAP Land Use Designations

The Large Parcel Agriculture designation description explicitly permits "...utility corridors, and similar uses compatible with agriculture"; the descriptions for the Resource Management and Water Management designations contain no mention of utility uses, although in many cases, electrical transmission lines and water service utilities, among others, are located on lands bearing these designations in the ECAP.

Policies related to processing application for SEFs

Currently, the County Zoning Ordinance does not specifically list SEFs as permitted or conditional uses in the "A" (Agricultural) District; however, the following are listed as conditional uses: "Public utility building or uses, excluding such uses as a business office, storage garage, repair shop or corporation yard;" and "Privately owned wind-electric generators." As SEFs are similar to these types of uses, they are allowed in the "A" (Agricultural) District with the approval of a Conditional Use Permit (CUP).

Staff recommends that the County Zoning Ordinance be amended to explicitly include SEFs in the "A" (Agricultural) District and to establish specific permit requirements and standards for their development. The standards should address factors such as visual and environmental considerations, fencing and screening requirements, vegetation removal, grading, slope, setbacks and height limits. Appropriate definitions related to SEFs should also be added to the ordinance.

Also, there are no guidelines or policies in place to determine the review and approval path of an SEF project. The following tables suggest how a project may be reviewed given the various existing boards and commissions the County has in place.

Proposed Permit Requirements for Solar Energy Facilities in the "A" (Agricultural) District			
Building or Ground-mounted	Maximum Parcel Coverage	Prime or Unique Farmland or Farmland of Statewide Imp.?	Type of Permit Required
Building- mounted	NA	NA	Building Permits Only
Ground-mounted	Up to half of an acre over existing impervious surface such as parking lot	NA	Ministerial Permit
Ground-mounted	Up to 10% of parcel or 10 acres, whichever is less	No	Site Development Review (SDR) approved by Planning Director if specific standards are met
Ground-mounted	Up to 10% of parcel or 10 acres, whichever is less	Yes	CUP approved by BZA
Ground-mounted	Up to 20% of parcel or 20 acres, whichever is less	Yes or No	CUP approved by BZA
Ground-mounted	Up to 100% of parcel	Yes or No	CUP approved by PC

Examples of How Proposed Permit Requirements Would Apply to Ground-mounted SEFs on Various Parcel Sizes in the "A" (Agricultural) District			
Example Parcel Size	Parcel Coverage	Prime or Unique Farmland or Farmland of Statewide Imp.?	Type of Permit Required
5 acres	Up to .5 acre (10%)	No	SDR
	Up to .5 acre (10%)	Yes	CUP approved by BZA
	Up to 1 acre (20%)	Yes or No	CUP approved by BZA
	Up to 5 acres (100%)	Yes or No	CUP approved by PC
10 acres	Up to 1 acre (10%)	No	SDR
	Up to 1 acre (10%)	Yes	CUP approved by BZA
	Up to 2 acres (20%)	Yes or No	CUP approved by BZA
	Up to 10 acres (100%)	Yes or No	CUP approved by PC
100 acres	Up to 10 acres (10%)	No	SDR
	Up to 10 acres (10%)	Yes	CUP approved by BZA
	Up to 20 acres (20%)	Yes or No	CUP approved by BZA
	Up to 100 acres (100%)	Yes or No	CUP approved by PC
200 acres	Up to 10 acres	No	SDR
	Up to 10 acres	Yes	CUP approved by BZA
	Up to 20 acres	Yes or No	CUP approved by BZA
	Up to 200 acres (100%)	Yes or No	CUP approved by PC