



ALAMEDA COUNTY COMMUNITY DEVELOPMENT AGENCY
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MEMORANDUM

TO: Board of Supervisors' Transportation/Planning Committee

FROM: Chris Bazar, Director, Community Development Agency
Albert Lopez, Planning Director

DATE: June 6, 2011

SUBJECT: Update on Solar Policy Development

BACKGROUND

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 in the County. The Board directed staff to develop a set of policies within 90 days to apply to solar farms in the rural areas of the County. The Board also directed staff to provide progress reports to the Board Transportation and Planning Subcommittee during the 90 day period. This memo constitutes the first progress report.

DISCUSSION

Staff is in the process of researching policies, ordinances and mitigation measures used for solar projects in other jurisdictions. A discussion of potential mitigation measures that could be applied to solar facilities in rural areas is attached. In addition, staff is participating with the California County Planning Directors Association (CCPDA) in the development of a model solar ordinance that will address design standards such as setbacks and height limits, as well as aim to minimize impacts. Throughout this process staff will have the opportunity to learn from the experiences of other counties where multiple solar facilities have already been approved. The County may consider adapting this model ordinance for its own use at a future time.

Consistency with the East County Area Plan (ECAP) and Measure D

The East County Area Plan (ECAP) is the general plan for the eastern portion of the County where the proposed solar energy facilities would be located. County Counsel has determined that generally, solar facilities are consistent with ECAP policies. Solar facilities constitute quasi-public uses consistent with "windfarms and related facilities, utility corridors and similar uses compatible with agriculture" which are allowed on parcels designated Large Parcel Agriculture (LPA). ECAP Policy 13 does not allow public facilities or other infrastructure in excess of that needed for permissible development consistent with Measure D. Solar facilities would be consistent with

Policy 13 of ECAP if they are found to serve existing users or replace existing non-renewable energy sources, and if they have no grow-inducing effects. The Large Parcel Agriculture designation limits development of non-residential buildings to a floor area ratio (FAR) of .01; however, the FAR would not apply to solar collectors as they are not buildings.

Public Input

Staff is in the process of conducting community meetings to receive public input regarding the siting of solar facilities in rural areas. The County Agricultural Advisory Committee discussed issues related to solar facilities at their regular meeting on May 24th. Issues raised included how to address impacts from new overhead transmission lines, siting solar facilities in urban vs. rural areas, potential impacts on raptors from locating solar facilities near the existing wind turbines, potential impacts on native plants and soils, the feasibility of agricultural activities under solar panels, mitigation for loss of prime agricultural land, and potential impacts on neighboring agricultural operations.

Staff has scheduled a meeting that will focus on environmental issues on June 16; and there will also be a large community meeting on June 23. A variety of stakeholders have been invited to attend this meeting, including solar energy proponents, environmental groups, agricultural interests, neighboring jurisdictions, regional entities, and state and federal agencies.

NEXT STEPS

Staff will continue to compile public comments and conduct research to develop draft policies to present to the full Board of Supervisors at the July 12th Board Planning Meeting.

Attachment:

Draft Mitigation Measures for Environmental Impacts of Solar Energy Facilities

DRAFT MITIGATION MEASURES FOR ENVIRONMENTAL IMPACTS OF SOLAR ENERGY FACILITIES
(For discussion purposes at County of Alameda Transportation and Planning Committee, 6/6/2011)

Large commercial-scale solar energy facilities across California, as a result of their expansiveness and economics that favor flat, undeveloped land, result in a fairly uniform set of environmental impact categories statewide. Large commercial solar facilities built to utilize existing farmland or open space may result in:

1. Loss of open space, visual and aesthetic impacts
2. Permanent or temporary loss or reduction in productivity of farmland.
3. Loss or reduction in quality of natural habitat for wildlife and special-status species, including migratory birds and raptors;
4. Incompatibility with Williamson Act Contracts and Agricultural Preserves, and with conservation easements;
5. Incompatibility with land use designations and related policies in local general planning documents;
6. Abandonment of water rights essential for continued or future agricultural use;
7. Potential for waste management problems resulting from abandonment of constructed sites in case of default or obsolescence;
8. Impacts to aircraft near airports and runways.

These impacts have not, in all cases, been easy to mitigate. In Alameda County, where the jurisdictional constraints on the remaining quantity of prime farmlands also constrain the County's ability to preserve prime agriculture in the County, the impacts may become more acute and the mitigation more technically difficult.

Possible Mitigation Measures

At this point in the development of the County's Solar Energy Facility policy, a complete set of mitigation measures should be considered. A description of impacts and possible mitigations follows:

- A. Loss of Open Space, Farmland, Productivity** – If an impact is found, the opportunities for mitigation inside the County are limited. Although there are many tens of thousands of acres of open space in the County that could be used as mitigation for that impact, there are currently only about 3,900 acres of State-Classified prime, unique or otherwise significant farmland remaining, and this number typically diminishes each year. Placement of solar facilities on prime or unique farmlands virtually guarantees that this status will be lost, so direct preservation is not possible.

However, mitigation measures for loss of farmland, prime or otherwise, could generally be worded thusly:

- Applicant shall place under quasi-permanent easement, at a [1:1] ratio of farmland used for solar installation, [prime] farmland within Alameda County; 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 solar installation project. 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. (This approach has been used in other Counties, as well as for the relatively small Greenvolts Solar Project in Alameda County).

- A similar approach could be used for non-prime lands if productivity on the site is otherwise adversely affected; lands of similar quality of productivity could be conserved.
- If the impact is simple loss of original agriculture, but if grazing could still be accommodated on the site under the solar panels, this could be considered adequate mitigation.

B. Incompatibility with Existing Easements – If the solar development is proposed on lands with existing easements, unless suitable replacements for the encumbered land can be located and so encumbered, this would be an unavoidable impact and solar development may not be legally possible.

C. Incompatibility with Williamson Act Contracts – The presence of a Williamson Act Contract on a proposed parcel presents a complicating factor. While “electrical facilities” are considered compatible uses under the Act, there are parameters that define compatible uses, and if the use displaces agriculture so that economic viability is lost, it is no longer compatible. The State Department of Conservation has opined that large-scale solar installations are generally not compatible with the Act. Additional restrictions on uses would occur if the site has also been designated as “Prime” under the Act.

In these cases, the only option for development may be cancellation of the Contract, which incurs substantial fees and also raises the property tax rates on the parcel. It is possible that acceptable mitigation would be to enter into a new equivalent contract for a comparable parcel(s) nearby, but this option would need to be considered on a case-by-case basis.

D. Restoration of Agriculture after the Solar Installation’s Lifetime has passed – Site restoration to the original condition could be mitigation if the site were to ever be abandoned for solar use. To be an acceptable mitigation measure, this concept would probably require a guaranteed end date for the facility, and a financial assurance of some kind, payable only to the Lead Agency, to guarantee faithful performance. Even if this measure is not used as mitigation, the idea of a financial assurance for site restoration in case of abandonment is recommended.

E. Abandonment of Water Rights Necessary for Agricultural Use – Staff is not fully familiar with this issue, but have encountered arguments that if an agricultural parcel that depends on minimum water rights for its productivity (and possibly Prime status) allows that annual water requirement to become dormant while the solar installation is in operation, the ability to regain those rights at the end of the solar use may be jeopardized, and some of the mitigation described above may also be jeopardized as a result. Staff needs to explore this issue further.

F. Loss or Reduction of Quality of Biological Habitat – Eastern Alameda County is habitat for numerous special status - and otherwise protected plants and animals. Reduction of this habitat could occur as a result of solar construction. Typical mitigation for this type of impact has usually included avoidance of specific animals on the site or cessation of construction during breeding seasons, and most notably setting aside comparable habitat at a ratio acceptable to the trustee agencies (California Department of Fish and Game, U.S. Fish and Wildlife Service). The ratios for these set-asides can be large, in some cases 3:1 or occasionally more. For a project of large land coverage such as a solar facility, this requirement could be prohibitive, unless onsite mitigation is conceived.

Alameda County, in cooperation with many other local interested agencies, has participated in development of a draft Eastern Alameda County Conservations Strategy (EACCS), which would define for any project what level of biological mitigation is expected of it. Staff tentatively recommends that any solar project use the EACCS as a starting point for biological mitigation.

An emerging biological issue for solar arrays is the effect on bird in flight. Birds may be fooled into colliding with the reflective panel surfaces, and consideration will need to be paid on how to help birds to avoid this problem. Some members of the public have expressed concern that solar development in raptor habitat will modify the hunting patterns and push those birds back into the wind turbine areas; this issue also needs to be explored.

G. Incompatibility with Adopted or Mandated General Plan Designations or Policies – These incompatibilities qualify as environmental impacts, and would need to be assessed on a project-by-project basis.

H. Visual and Aesthetic Changes – A project as large as a solar installation in virgin open space or open farmland will have visual impacts on the environment, whether seen from close range or as viewed from more distant elevated viewpoints. Mitigation for impacts of this type usually includes screening at close range; for distant public views, it may not be possible to mitigate the effect of hundreds or thousands of acres of altered landscape.

An additional aesthetic consideration which is also a safety issue is that of reflection and glare toward aircraft. Depending on the technology used, there may or may not be extensive glare and reflection, and it may or may not be broadly dispersed. This issue would need to be examined on a case-by-case basis.

I. Potential for Waste Management Problems resulting from abandonment of constructed sites in case of default or obsolescence – As described in (D) above, this issue may be addressed by the requirement for site housekeeping, cleanup, and provision of financial assurances for restoration in the event of abandonment, including a disposal/reuse or recycling plan for decommissioned solar facilities and equipment.

J. Public Controversy and Opposition – while this is not an environmental impact in itself, it can drive the need for careful policy considerations, project viability and acceptable levels of mitigation for impacts. Questions are being raised by representatives of the agricultural and environmental communities about whether loss of farmland and habitat are acceptable trade-offs for renewable energy, and argue for more extensive urban solar development. These issues have been experienced by other Counties and public agencies, and levels of public interest have been increasing.