

**SUBMITTAL TO THE BOARD OF SUPERVISORS  
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA**



**FROM:** Transportation and Land Management Agency

**SUBMITTAL DATE:**  
November 3, 2011

**SUBJECT:** General Plan Amendment No. 1080; Resolution No. 2011-273 Amending the Riverside County General Plan - Second Cycle of General Plan Amendments for 2011; Ordinance No. 348.4734, amending Ordinance No. 348 regarding solar energy systems; Ordinance No. 348.4705, amending Ordinance No. 348 regarding solar power plants; Board of Supervisors Policy No. B-29 pertaining to solar power plants

**RECOMMENDED MOTION:** That the Board of Supervisors:

- (1) Adopt General Plan Amendment No. 1080 amending the Land Use Element of the General Plan;
- (2) Adopt Resolution No. 2011-273 amending the Riverside County General set forth in Attachment A;
- (3) Adopt Ordinance No. 348.4734 amending Ordinance No. 348 regarding solar energy systems, set forth in Attachment B;
- (4) Adopt Ordinance No. 348.4705, amending Ordinance No. 348 regarding solar power plants, set forth in Attachment C;
- (5) Approve Board of Supervisors Policy No. B-29 pertaining to solar power plants, set forth in Attachment D;
- (6) Find Ordinance No. 348.4734 exempt from CEQA pursuant to CEQA Guidelines sections 15061(b)(3) and 15268; and
- (7) Find GPA No. 1080, Ordinance No. 348.4705 and Board of Supervisors Policy No. B-29 exempt from CEQA pursuant to CEQA Guidelines section 15061(b)(3).

(continued on page 2)

  
 \_\_\_\_\_  
 George Johnson, Director  
 Transportation and Land Management Agency

FORM APPROVED COUNTY COUNSEL

BY: KATHERINE A. LIND DATE 11/03/11

Departmental Concurrence

<b>FINANCIAL DATA</b>	Current F.Y. Total Cost:	\$ NA	In Current Year Budget:	NA
	Current F.Y. Net County Cost:	\$ NA	Budget Adjustment:	NA
	Annual Net County Cost:	\$ NA	For Fiscal Year:	

<b>SOURCE OF FUNDS:</b>	Positions To Be Deleted Per A-30	<input type="checkbox"/>
	Requires 4/5 Vote	<input type="checkbox"/>

**C.E.O. RECOMMENDATION:**

APPROVE  
 BY:   
 \_\_\_\_\_  
 Denise C. Harden

**County Executive Office Signature**

Dept's Recomm.:  Consent  Policy   
 Per Exec. Ofc.:  Consent  Policy

## **BACKGROUND:**

Pursuant to this agenda item, staff is asking the Board to consider two projects. The first project is Ordinance No. 348.4734, an amendment to Ordinance No. 348 regarding solar energy systems. The second project is a comprehensive, integrated legislative solar power plant program which includes General Plan Amendment No. 1080 ("GPA No. 1080"), Ordinance No. 348.4705 and Board of Supervisors Policy No. B-29 ("Board Policy No. B-29").

### **Solar Energy Systems**

Ordinance No. 348.4734 would allow a "solar energy system" as an accessory use in all zones, subject to administrative review by the Director of Building and Safety. A "solar energy system" is a system which is an accessory use to any residential, commercial, industrial, mining, agricultural or public use, used primarily (i.e. more than 50 percent) to reduce onsite utility usage. In certain cases, as stated in the ordinance, a "solar energy system" could require a plot plan. The Planning Commission recommended adoption of the solar energy system provisions reflected in Ordinance No. 348.4734 on July 14, 2010.

### **Solar Power Plants**

Solar companies are descending on the County to take advantage of the County's superior sunshine, easy transmission access, expansive open space and close proximity to population centers. These unique attributes, coupled with the following state mandates have put Riverside County at the epicenter of the solar rush – 33 percent of the total electricity sold to retail customers by December 31, 2020, must come from renewable energy resources and 75 percent of all such renewable energy resources must be from in-state sources by 2017. This influx is being heavily subsidized by taxpayer dollars. Solar power plants are largely exempt from property taxes paid by residents and other businesses, including other renewable energy generators. Photovoltaic plants are completely exempt from paying property taxes on all energy generation facilities and equipment. Solar thermal plants are 75 percent exempt on their dual use energy generation facilities and equipment.

While the County supports solar energy and acknowledges its benefits, it is clear a comprehensive, integrated legislative program is now necessary to ensure that:

- The County can fully implement its General Plan;
- The County does not disproportionately bear the burden of solar energy production; and
- The County is compensated in an amount it deems appropriate for the use of its real property.

The benefits of solar power plants occur primarily on a national, statewide and regional level. The County wants to contribute its fair share to meet renewable energy goals, but not at the expense of its residents. At the local level, solar power plants permanently alter the landscape. They also permanently commit vast areas of the County to energy production and preclude all other potential uses including, but not limited to, agricultural, recreational, commercial, residential and open space uses. The amount of land required to operate solar power plants is

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significantly greater than the amount of land required to operate other renewable energy facilities and conventional energy facilities. Photovoltaic (PV) solar power plants consume between 5 and 7 acres per megawatt - 250 to 350 acres are required for a 50 megawatt plant. In contrast, a conventional natural gas-fired power plant needs only 37 acres to generate 800 megawatts.

Currently, more than 20 utility-scale solar power plants are proposed on 118,000 acres between Desert Center and Blythe. That equates to an area the size of the cities of Palm Springs, Cathedral City, Rancho Mirage, Palm Desert and Indio combined. Because Riverside County is one of the fastest growing counties in the state, and because it is expected to be the second most populous county in the state by 2044, the commitment of so much land to a single use has serious consequences.

The County's comprehensive, integrated solar power plant program includes GPA No. 1080, Ordinance No. 348.4705 and Board Policy No. B-29.

GPA No. 1080 is a County-initiated general plan amendment that would add two new countywide policies to the Land Use Element of the General Plan. Proposed Land Use Policy LU 15.15 provides that the County will permit and encourage, in an environmentally and fiscally responsible manner, the development of renewable energy resources and related infrastructure, including, but not limited to, the development of solar power plants. The Board of Supervisors adopted an order to initiate GPA No. 1080 on February 9, 2010. The Planning Commission recommended adoption of GPA No. 1080 on July 14, 2010.

Ordinance No. 348.4705 would amend Ordinance No. 348 to authorize solar power plants on lots ten (10) acres or larger, subject to a conditional use permit in the following zone classifications: General Commercial (C-1/C-P), Commercial Tourist (C-T), Scenic Highway Commercial (C-P-S), Rural Commercial (C-R), Industrial Park (I-P), Manufacturing Servicing Commercial (M-SC), Medium Manufacturing (M-M), Heavy Manufacturing (M-H), Mineral Resources (M-R), Mineral Resource and Related Manufacturing (M-R-A), Light Agriculture (A-1), Light Agriculture with Poultry (A-P), Heavy Agriculture (A-2), Agriculture-Dairy (A-D), Controlled Development (W-2), Regulated Development Areas (R-D), Natural Assets (N-A), Waterways and Watercourses (W-1), and Wind Energy Resource Zone (W-E). The Planning Commission recommended adoption of Ordinance No. 348.4705 on July 14, 2010.

Ordinance No. 348.4705 is necessary because solar power plants are not currently listed as permitted or conditionally permitted use in any zone classification. When a use is not specifically listed as permitted or conditionally permitted in a zone classification, the use is prohibited. The Planning Director has limited ability to make a determination that a use is substantially the same in character and intensity as those uses permitted or conditionally permitted in the zone classification.

Such a determination cannot appropriately be made with respect to solar power plants because there are no other uses substantially similar in Ordinance No. 348. Some zones permit "public utility substations and storage yards," but the generation of solar energy at a large scale solar

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power plant is not the same in character and intensity as a substation and storage yard. Moreover, solar power plant owners maintain they are not public utilities.

On February 8, 2011, the Board recognized the impact the sudden influx of renewable energy plants will have on Riverside County and directed staff to prepare a board policy. On June 28, 2011, the Executive Office placed Board Policy No. B-29 on the Board's agenda for its consideration (agenda item 3.112).

Board Policy No. B-29, as proposed in June, provided that certain permits and approvals would not be issued for a solar power plant unless the Board of Supervisors first approved a franchise, real property interest, or development agreement with the solar power plant owner. As a term of such agreements, the solar power plant owner would annually pay 2 percent of gross annual receipts. Consistent with state law, the County has a long-standing practice of granting electricity franchises requiring payment of 2 percent of gross annual receipts in return for encroaching on the County's rights-of-way for the purpose of installing electrical transmission facilities. On June 28, the Board of Supervisors continued the Board policy so that staff could meet with solar industry representatives.

Staff held meetings with representatives from 12 different solar companies on August 8, 2011, August 11, 2011, August 30, 2011, September 14, 2011, September 22, 2011, October 20, 2011, and October 25, 2011. Each of these meetings lasted several hours and many ideas were discussed. The solar industry representatives strongly objected to the County's initial proposal for a payment of 2 percent of gross annual receipts, although public utilities such as Edison make such payments. They also objected to County staff's suggested megawatt-based methodology. At the solar industry's request, staff agreed to use their preferred per-acre payment methodology. Although there was consensus on many points, no agreement on a comprehensive policy was reached.

Revised Board Policy No. B-29 strikes a balance between economic development and protecting county taxpayers. It currently provides that:

- No encroachment permit shall be issued for a solar power plant unless the Board of Supervisors first grants a franchise to the solar power plant owner.
- No interest in the County's property, or the real property of any district governed by the County, shall be conveyed for a solar power plant unless the Board of Supervisors first approves a real property interest agreement with the solar power plant owner.
- No approval required by Ordinance Nos. 348 or 460 shall be given for a solar power plant unless the Board of Supervisors first approves a development agreement with the solar power plant owner and the development agreement is effective.

All such agreements shall include a term requiring a solar power plant owner to make an annual payment to the County of \$640 for each acre involved in the power production process, adjusted

for inflation. A solar power plant owner is also required to deliver a letter of credit to the County to secure the payment of sales and use taxes.

The revised policy includes a local hire incentive, a collocation incentive, and a property tax credit, all of which may be applied to reduce the base payment amount, as appropriate, by no more than 50 percent. In addition, the revised policy includes a suspension of operation provision and an exemption provision for solar power plants with a rated production capacity of five or fewer megawatts. The incentives, credit and exemption provisions resulted from thoughtful deliberation during meetings with solar industry representatives and further discussions among staff.

Board Policy No. B-29 provides further benefits to solar power plant owners. Specifically:

- Cost certainty                    A franchise, real property interest or development agreement would set the solar power plant payment.
- Development rights            A development agreement would secure a vested right to develop in accordance with the rules and regulations existing at the time the development agreement became effective.
- Project phasing                A development agreement would secure the right to develop the project in such order and at such rate and at such times as the owner deems appropriate within the exercise of its subjective business judgment, subject only to any timing or phasing requirements set forth in its development plan.
- Equipment upgrades          A development agreement would secure the right to make equipment upgrades or repower without additional County discretionary approvals, provided that the mode of production and original footprint remain the same, and height is not increased.
- Assignment rights            A franchise, real property interest or development agreement would secure the right to assign or transfer the benefits of the agreement to future purchasers.
- Duration                        A franchise, real property interest or development agreement would secure the benefits referenced above for a term that coincides with the operation of the solar power plant.

The policy does not affect development impact fees or Fire Department capital costs, which will be handled as they have in the past.

When the Board considered Board Policy No. B-29 on June 28, numerous speakers said the proposed payment would place an onerous burden on solar power plants. As a result, they claimed, fewer plants would be constructed or, alternatively, would move out of the County or state. This displacement argument is without merit, according to the report titled "Effect of

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Proposed Board Policy B-29 on Solar Power Plant Projects,” prepared by Dr. David Kolk of Complete Energy Consulting, LLC, attached hereto and incorporated herein by reference as Attachment E. Dr. Kolk’s analysis indicates that the proposed per-acre annual payment will have a minimal impact on solar power plants and will not affect the County’s ability to attract and retain those projects. Dr. Kolk reasoned that the major driver of locating solar projects within California will continue to be transmission interconnection costs. “To the extent Riverside County offers better access to new transmission facilities it will continue to have an advantage over other parts of the state in attracting solar projects after the proposed payment is adopted.” Dr. Kolk also demonstrated that the minimal impact of the payment would be reduced by the property tax credit, local hire incentive and collocation incentive proposed in the Board policy. Dr. Kolk indicated additional incentives such as an early construction incentive and a permanent jobs incentive could further reduce the impact. These additional incentives are available for the Board’s consideration.

Ordinance No. 348.4734 is exempt from CEQA pursuant to CEQA Guidelines section 15061(b)(3) because it can be seen with certainty there is no possibility the amendment may have a significant effect on the environment. Ordinance No. 348.4734 implements a mandatory state program requiring that provisions be made for the approval of solar energy systems on a ministerial basis. This program is set forth in Government Code section 65850.5 and Health and Safety Code section 17959.1. As a result, the adoption of this ordinance is also exempt from CEQA as a ministerial project pursuant to CEQA Guidelines section 15268.

GPA No. 1080, Ordinance No. 348.4705 and Board Policy No. B-29 are exempt from CEQA pursuant to CEQA Guidelines section 15061(b)(3), in that it can be seen with certainty there is no possibility the project may have a significant effect on the environment. The project merely establishes a discretionary permitting process for solar power plants in the County. To perform any environmental analysis at this early stage would require the County to speculate as to which parcels might be involved, what type of solar technology might be used, and what impacts a future solar power plant project might have. As a result, such analysis would be premature and meaningless. “Determining whether a project qualifies for the common sense exemption need not necessarily be preceded by detailed or extensive factfinding. Evidence appropriate to the CEQA stage in issue is all that is required.” *Muzzy Ranch Co. v. Solano County Airport Land Use Commission* (2007) 41 Cal.4<sup>th</sup> 372, 388. There is no specific development application connected with this project and it does not commit the County to any development. As noted by Dr. Kolk in his report, the project will not displace solar power plants to locations outside Riverside County. Accordingly, the County’s approval of the project does not create a reasonably foreseeable physical change in the environment. Before development occurs on any particular site, all environmental issues will be analyzed in site-specific environmental impact reports or other environmental documents. The conclusions expressed herein are consistent with CEQA Guidelines section 15004 (b) which provides: “Choosing the precise time for CEQA compliance involves a balancing of competing factors. EIRs and negative declarations should be prepared as early as feasible in the planning process to enable environmental considerations to influence project program and design and yet late enough to provide meaningful information for environmental assessment.”

2  
3 **RESOLUTION NO. 2011-273**  
4 **AMENDING THE RIVERSIDE COUNTY**  
5 **GENERAL PLAN**

6 **(Second Cycle General Plan Amendments for 2011)**

7 **WHEREAS**, pursuant to the provisions of Government Code Section 65350 et. seq., notice was  
8 given and public hearings were held before the Riverside County Board of Supervisors and before the  
9 Riverside County Planning Commission to consider a proposed amendment to the Land Use Element of  
10 the Riverside County General Plan; and,

11 **WHEREAS**, all provisions of the California Environmental Quality Act (“CEQA”) and Riverside  
12 County CEQA implementing procedures have been satisfied; and,

13 **WHEREAS**, the proposed general plan amendment was discussed fully with testimony and  
14 documentation presented by the public and affected government agencies; now, therefore,

15 **BE IT RESOLVED, FOUND, DETERMINED AND ORDERED** by the Board of Supervisors  
16 of the County of Riverside in regular session assembled on November 8, 2011 that:

17 **General Plan Amendment No. 1080** (GPA No. 1080) is a County-initiated general plan  
18 amendment to incorporate into the Land Use Element the two new policies set forth in “GPA No. 1080  
19 Exhibit A,” a copy of which is attached hereto and incorporated herein by reference. GPA No. 1080 has  
20 County-wide application and affects all properties located in the unincorporated area. GPA No. 1080, the  
21 text of Ordinance No. 348.4734 and Ordinance No. 348.4705 were considered concurrently at the public  
22 hearing before the Planning Commission on July 14, 2010. The Planning Commission recommended  
23 adoption of GPA No. 1080 on July 14, 2010. GPA No. 1080, Ordinance No. 348.4734, Ordinance No.  
24 348.4705, and Board of Supervisors Policy B-29 were considered concurrently at the Board of  
25 Supervisors on November 8, 2011.

26 GPA No. 1080 adds the following policies to the Land Use Element under a new heading entitled  
27 “Solar Energy Resources:”

- 28
1. LU-15.14 - Permit and encourage solar energy systems as an accessory use to any residential, commercial, industrial, mining, agricultural or public use.

FORM APPROVED COUNTY COUNSEL  
BY: KATHERINE A. JIND DATE: 11/08/11

1           2.     LU 15.15 - Permit and encourage, in an environmentally and fiscally responsible  
2                     manner, the development of renewable energy resources and related infrastructure,  
3                     including but not limited to, the development of solar power plants in the County of  
4                     Riverside.

5           Ordinance No. 348.4734 amends Ordinance No. 348 to allow "solar energy systems" as an  
6 accessory use in all zones, subject to administrative review by the Director of Building & Safety. In  
7 certain cases, as stated in the ordinance, a "solar energy system" may require a plot plan. Ordinance No.  
8 348.4705 amends Ordinance No. 348 to add "solar power plants" as a permitted use subject to the  
9 issuance of a conditional use permit on lots ten (10) acres or larger in the following zones: General  
10 Commercial (C-1/C-P), Commercial Tourist (C-T), Scenic Highway Commercial (C-P-S), Rural  
11 Commercial (C-R), Industrial Park (I-P), Manufacturing-Service Commercial (M-SC), Medium  
12 Manufacturing (M-M), Heavy Manufacturing (M-H), Mineral Resources (M-R), Mineral Resource and  
13 Related Manufacturing (M-R-A), Light Agriculture (A-1), Light Agriculture with Poultry (A-P), Heavy  
14 Agriculture (A-2), Agriculture-Dairy (A-D), Controlled Development (W-2), Regulated Development  
15 Areas (R-D), Natural Assets (N-A), Waterways and Watercourses (W-1), and Wind Energy Resource (W-  
16 E).

17           Board of Supervisors Policy B-29 provides that the County will not issue certain permits or  
18 approvals unless the Board of Supervisors first approves a franchise, real property interest or development  
19 agreement with the owner of a solar power plant. The permits or approvals involve (i) use of County  
20 rights-of-way, (ii) use of other County property, or (iii) land development under the County's zoning and  
21 subdivision ordinances. As a term of such agreements, the owner of a solar power plant would annually  
22 pay a fixed amount per acre of land devoted to the power production process. The purposes of this Board  
23 policy are to implement the General Plan, to ensure that the County does not disproportionately bear the  
24 burden of solar energy production, to ensure the County is compensated in an amount it deems  
25 appropriate for the use of its real property, and to give solar power plant owners certainty as to the  
26 County's requirements.

27           **BE IT FURTHER RESOLVED** by the Board of Supervisors, based on the evidence presented on  
28 this matter, both written and oral, including the Notice of Exemption, that:



1. GPA No. 1080 does not involve a change in or conflict with the Riverside County Vision, any General Planning Principle set forth in Appendix B or any Foundation Component designation in the General Plan. “Creativity and Innovation,” “Natural Environment,” and “Sustainability” are fundamental values of the County expressed in the Vision of the General Plan. Encouraging solar energy systems as an accessory use and encouraging the development of renewable energy resources and related infrastructure, in an environmentally and fiscally responsible manner, reaffirms the County’s commitment to these fundamental values. No changes to General Planning Principles or Foundation Component designations are proposed; no conflict with those principles or designations will result.
2. GPA No. 1080 will either contribute to the purposes of the General Plan or, at a minimum, would not be detrimental to them for the reasons specified above. In addition, GPA No. 1080 is complementary to Policy OS 13.2 in the Multipurpose Open Space Element of the General Plan which calls for the County to “support and encourage voluntary efforts to provide active and passive solar access opportunities in new development.”
3. Special circumstances or conditions have emerged that were unanticipated in preparing the General Plan. After the General Plan was adopted in 2003, the Governor of the State of California issued Executive Order S-21-09 and the legislature passed SB X 1-2 establishing the California Renewables Portfolio Standard Program. Pursuant to this program, the amount of electricity required to be generated per year from renewable energy resources has been increased to an amount that equals at least 33% of the total electricity sold to retail customers by December 31, 2020. Moreover, 75% of all renewable resources are to be from in-state sources by 2017. This aggressive 33% standard was not anticipated in preparing the General Plan. GPA No. 1080 will aid in meeting the 33% standard while also ensuring that solar power plants and related infrastructure do not jeopardize the County’s fundamental values set forth in the General Plan Vision Statement, the General Planning Principles set forth in Appendix B and the General Plan policies.

1           4.       A change in policy is required to conform to changes in state or federal law or  
2                   applicable findings of a court of law. GPA No. 1080 will implement Government Code  
3                   section 65850.5 and Health and Safety Code section 17959.1 by reflecting the policy of  
4                   the State to promote and encourage the use of solar energy systems and to limit  
5                   obstacles to their use.

6           **BE IT FURTHER RESOLVED** by the Board of Supervisors that that it finds General Plan  
7 Amendment No. 1080 exempt from CEQA for the reasons set forth in the staff report and the Notice of  
8 Exemption.

9           **BE IT FURTHER RESOLVED** by the Board of Supervisors that Land Use Policy LU 15.15 is  
10 adopted as part of a comprehensive, integrated legislative program which also includes the adoption of  
11 Ordinance No. 348.4705 and Board of Supervisors Policy No. B-29. The Board of Supervisors declares  
12 that it would not have adopted Land Use Policy LU 15.15 unless Ordinance No. 348.4705 and Board of  
13 Supervisors Policy No. B-29 were also adopted and effective. In the event that any provision of Land Use  
14 Policy LU 15.15, Ordinance No. 348.4705 or Board of Supervisors Policy No. B-29 is determined to be  
15 invalid or unenforceable, in whole or in part, by a court of competent jurisdiction, then Land Use Policy  
16 LU 15.15, Ordinance No. 348.4705 and Board of Supervisors Policy No. B-29 shall be deemed invalid in  
17 their entirety and shall have no further force or effect.

18           **BE IT FURTHER RESOLVED** by the Board of Supervisors that it **ADOPTS** General Plan  
19 Amendment No. 1080 as described herein and as shown on the exhibit entitled "GPA No. 1080 Exhibit  
20 A."

21           **BE IT FURTHER RESOLVED** by the Board of Supervisors that the custodians of the  
22 documents upon which this decision is based are the Clerk of the Board of Supervisors and the County  
23 Planning Department, and that such documents are located at 4080 Lemon Street, Riverside, California.  
24  
25  
26  
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28

GPA No. 1080 Exhibit A

To be added to the Countywide Policies of the Land Use Element of the General Plan after “Wind Energy Resources” and before “Density Transfers.”

“Solar Energy Resources

- LU 15.14 Permit and encourage solar energy systems as an accessory use to any residential, commercial, industrial, mining, agricultural or public use.
- LU 15.15 Permit and encourage, in an environmentally and fiscally responsible manner, the development of renewable energy resources and related infrastructure, including but not limited to, the development of solar power plants in the County of Riverside.”

1 ORDINANCE NO. 348.4734

2  
3 AN ORDINANCE OF THE COUNTY OF RIVERSIDE

4 AMENDING ORDINANCE NO. 348

5 RELATING TO ZONING

6  
7 The Board of Supervisors of the County of Riverside ordains as follows:

8 Section 1. Section 18.51 of Ordinance No. 348 is added to read as follows:

9 “SECTION 18.51. SOLAR ENERGY SYSTEMS. Notwithstanding any other  
10 provision of this ordinance, solar energy systems are permitted as an accessory use  
11 in all zones subject to the provisions of this section.

12 a. The intent of this section is to provide for the implementation of section  
13 65850.5 of the Government Code and section 17959.1 of the Health and  
14 Safety Code by complying with the mandatory provisions of those state  
15 statutes and to advance the state policy of encouraging the installation of  
16 solar energy systems by removing obstacles to, and minimizing costs of,  
17 permitting such systems. This section is intended to avoid any  
18 unreasonable restrictions on the ability of homeowners, agricultural  
19 concerns and business concerns to install solar energy systems. Solar  
20 energy systems utilize a renewable and nonpolluting energy resource,  
21 enhance the reliability and power quality of the electrical grid, reduce peak  
22 power demands, and make the electricity supply market more competitive  
23 by promoting consumer choice.

24 b. Applications to install solar energy systems shall be administratively  
25 reviewed and approved by the Director of the Department of Building and  
26 Safety as nondiscretionary permits; provided, however, that if the Director  
27 of the Department of Building and Safety determines in good faith that a  
28 solar energy system could have a specific adverse impact on the public  
health or safety, the applicant shall be required to apply for a plot plan

1 pursuant to section 18.30 of this ordinance and all provisions of that section  
2 shall apply except as modified by this section.

3 c. Review of an application to install a solar energy system shall be limited to  
4 a determination of whether the application meets all health and safety  
5 requirements of county, state and federal law. The requirements of county  
6 law shall be limited to those standards and regulations necessary to avoid a  
7 specific adverse impact upon the public health or safety. Review for  
8 aesthetic purposes, including any ordinance provision requiring the  
9 screening of the solar energy system, shall not be applicable.

10 d. If a plot plan is required pursuant to subsection b above, the plot plan shall  
11 not be denied unless the denial is based on written findings in the record  
12 that the proposed installation would have a specific adverse impact on the  
13 public health or safety, and there is no feasible method to satisfactorily  
14 mitigate or avoid the specific, adverse impact. The findings shall include  
15 the basis for rejection of potential feasible alternatives of preventing the  
16 adverse impact.

17 e. Any conditions imposed on an application to install a solar energy system  
18 shall be designed to mitigate the specific, adverse impact upon the public  
19 health and safety at the lowest cost possible.

20 f. A solar energy system for heating water shall be certified by the Solar  
21 Rating Certification Corporation (SRCC) or other nationally recognized  
22 certification agency. SRCC is a nonprofit third party supported by the  
23 United States Department of Energy. The certification shall be for the  
24 entire solar energy system and installation.

25 g. A solar energy system for producing electricity shall meet all applicable  
26 safety and performance standards established by the National Electrical  
27 Code, the Institute of Electrical and Electronics Engineers, and accredited  
28 testing laboratories such as Underwriters Laboratories and, where

1 applicable, rules of the Public Utilities Commission regarding safety and  
2 reliability.

3 h. For purposes of this section, the following terms shall have the following  
4 meanings:

5 (1) A “specific adverse impact” means a significant,  
6 quantifiable, direct and unavoidable impact, based on objective,  
7 identified and written public health or safety standards, policies or  
8 conditions as they existed on the date the application was deemed  
9 complete.

10 (2) A “feasible method to satisfactorily mitigate or avoid the  
11 specific, adverse impact” includes, but is not limited to, any cost-  
12 effective method, condition, or mitigation imposed by the county on  
13 another similarly situated application in a prior successful  
14 application for a permit. The county shall use its best efforts to  
15 ensure that the selected method, condition, or mitigation does not  
16 “significantly” increase the cost of the system or “significantly”  
17 decrease its efficiency or specified performance, or allows for an  
18 alternative system of comparable cost, efficiency, and energy  
19 conservation benefits. For solar domestic water heating systems or  
20 solar swimming pool heating systems that comply with state and  
21 federal law, “significantly” means an amount exceeding 20 percent  
22 of the cost of the system or decreasing the efficiency of the solar  
23 energy system by an amount exceeding 20 percent as originally  
24 specified and proposed. For photovoltaic systems that comply with  
25 state or federal law, “significantly” means an amount not to exceed  
26 \$2000 over the system cost as originally specified and proposed, or  
27 a decrease in system efficiency of an amount exceeding 20 percent  
28 as originally specified and proposed.”

Section 2.

A new section 21.62i of Article XXI of Ordinance No. 348 is added

to read as follows:

“Section 21.62i. SOLAR ENERGY SYSTEM. A system which is an accessory use to any residential, commercial, industrial, mining, agricultural or public use, used primarily (i.e. more than 50 percent) to reduce onsite utility usage, and which is either of the following:

- (a) Any solar collector or other solar energy device the primary purpose of which is to provide for the collection, storage and distribution of solar energy for electric generation, space heating, space cooling, or water heating.
- (b) Any structural design feature of a building, the primary purpose of which is to provide for the collection, storage and distribution of solar energy for electric generation, space heating, space cooling, or water heating.”

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1                    Section 3.      This ordinance shall take effect thirty (30) days after its adoption.

2  
3                    BOARD OF SUPERVISORS OF THE COUNTY  
4                    OF RIVERSIDE, STATE OF CALIFORNIA

5                    By: \_\_\_\_\_  
6                    Chairman


7                    ATTEST:  
8                    CLERK OF THE BOARD

9                    By: \_\_\_\_\_  
10                    Deputy

11                    (SEAL)

12                    APPROVED AS TO FORM

13                    November 3, 2011

14                    By:   
15                    TIFFANY N. NORTH  
16                    Deputy County Counsel

17                    G:\Property\TNorth\RCO No 348 solar energy systems.doc





1           Section 7.     A new subsection (22) is added to Section 11.26.c. of Article XIa of  
2 Ordinance No. 348 to read as follows:

3                         “(22) Solar power plant on a lot 10 acres or larger.”

4           Section 8.     A new subsection (18) is added to Section 12.2.c. of Article XII of  
5 Ordinance No. 348 to read as follows:

6                         “(18) Solar power plant on a lot 10 acres or larger.”

7           Section 9.     A new subsection (2) is added to Section 12.50.e. of Article XIIIa of  
8 Ordinance No. 348 to read as follows:

9                         “(2) Solar power plant on a lot 10 acres or larger.”

10          Section 10.    A new subsection (2) is added to Section 12.60.e. of Article XIIIb of  
11 Ordinance No. 348 to read as follows:

12                         “(2) Solar power plant on a lot 10 acres or larger.”

13          Section 11.    A new subsection (12) is added to Section 13.1.c. of Article XIII of  
14 Ordinance No. 348 to read as follows:

15                         “(12) Solar power plant on a lot 10 acres or larger.”

16          Section 12.    A new subsection (4) is added to Section 13.51.h. of Article XIIIa of  
17 Ordinance No. 348 to read as follows:

18                         “(4) Solar power plant on a lot 10 acres or larger.”

19          Section 13.    A new subsection (16) is added to Section 14.1.c. of Article XIV of  
20 Ordinance No. 348 to read as follows:

21                         “(16) Solar power plant on a lot 10 acres or larger.”

22          Section 14.    A new subsection (2) is added to Section 14.52.c. of Article XIVa of  
23 Ordinance No. 348 to read as follows:

24                         “(2) Solar power plant on a lot 10 acres or larger.”

25          Section 15.    A new subsection (32) is added to Section 15.1.d. of Article XV of  
26 Ordinance No. 348 to read as follows:

27                         “(32) Solar power plant on a lot 10 acres or larger.”

28          Section 16.    A new subsection (3) is added to Section 15.101.c. of Article XVa of

1 Ordinance No. 348 to read as follows:

2 “(3) Solar power plant on a lot 10 acres or larger.”

3 Section 17. A new subsection (15) is added to Section 15.200.c. of Article XVb of  
4 Ordinance No. 348 to read as follows:

5 “(15) Solar power plant on a lot 10 acres or larger.”

6 Section 18. A new subsection (10) is added to Section 16.2.b. of Article XVI of  
7 Ordinance No. 348 to read as follows:

8 “(10) Solar power plant on a lot 10 acres or larger.”

9 Section 19. A new subsection (2) is added to Section 17.2.g. of Article XVII of  
10 Ordinance No. 348 to read as follows:

11 “(2) Solar power plant on a lot 10 acres or larger.”

12 Section 20. A new subsection (5) is added to Section 17.3.b. of Ordinance No. 348 to  
13 read as follows:

14 “(5) No solar power plants shall be closer than 10 feet from any lot line.”

15 Section 21. A new Section 21.63 of Article XXI of Ordinance No. 348 is added to read  
16 as follows:

17 “Section 21.63. SOLAR POWER PLANT. A facility used to generate electricity  
18 from solar energy where the power plant will be connected to the power grid and  
19 the electricity will be used primarily (i.e. more than 50 percent) at locations other  
20 than the site of the solar power plant. Solar power plants include power plants  
21 using both solar thermal systems and photovoltaic systems to convert solar energy  
22 to electricity. Solar thermal systems concentrate heat to drive a turbine which is  
23 then used to create electricity from generators and include systems using solar  
24 troughs, solar dishes, and solar power towers. Photovoltaic systems use a  
25 technology such as solar cells which generates electricity directly from sunlight.”

26 Section 22. Existing Section 21.63 of Article XXI of Ordinance No. 348 is renumbered  
27 21.64.

28 Section 23. Ordinance No. 348.4705 is adopted as part of a comprehensive,

1 integrated legislative program which also includes the adoption of General Plan Amendment No 1080  
2 (Land Use Policy LU 15.15) and Board of Supervisors Policy No. B-29. The Board of Supervisors  
3 declares that it would not have adopted Ordinance No. 348.4705 unless General Plan Amendment No.  
4 1080 (Land Use Policy LU 15.15) and Board of Supervisors Policy No. B-29 were also adopted and  
5 effective. In the event that any provision of Ordinance No. 348.4705, General Plan Amendment No. 1080  
6 (Land Use Policy LU 15.15) or Board of Supervisors Policy No. B-29 is determined to be invalid or  
7 unenforceable, in whole or in part, by a court of competent jurisdiction, then Ordinance No. 348.4705,  
8 General Plan Amendment No. 1080 (Land Use Policy LU 15.15) and Board of Supervisors Policy No. B-  
9 29 shall be deemed invalid in their entirety and shall have no further force or effect.

10 Section 24.

This ordinance shall take effect thirty (30) days after its adoption.

11  
12 BOARD OF SUPERVISORS OF THE COUNTY  
13 OF RIVERSIDE, STATE OF CALIFORNIA

14  
15 By: \_\_\_\_\_  
Chairman


16 ATTEST:  
17 CLERK OF THE BOARD

18  
19 By: \_\_\_\_\_  
20 Deputy

21  
22 (SEAL)

23  
24 APPROVED AS TO FORM

25 November 3, 2011

26  
27 By:   
28 TIFFANY N. NORTH  
Deputy County Counsel

**Policy**

**Subject:**

**SOLAR POWER PLANTS**

**Number**

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**Purpose:**

The Board supports solar energy and acknowledges its benefits. The benefits of solar power plants, however, occur on a national, statewide and regional level. The County wants to contribute its fair share to meet renewable energy goals, but not at the expense of its residents. At the local level, solar power plants permanently alter the landscape. They also permanently commit vast areas of the County to energy production and preclude all other potential uses, including, but not limited to, agricultural, recreational, commercial, residential and open space uses. The amount of land required to operate these facilities is significantly greater than the amount of land required to operate other renewable energy facilities and conventional energy facilities. Because Riverside County is one of the fastest growing counties in the state and because it is expected to be the second most populous county in the state by 2044, the commitment of so much land to a single use has serious consequences.

There are currently such a large number of solar power plants approved and pending in the County that the fundamental values of the County expressed in its General Plan are in jeopardy. These fundamental values include "sustainability", pursuant to which the County has an expectation that its future residents will inherit communities offering them a reasonable range of choices (General Plan pg. V-7); and the "natural environment", pursuant to which the County is committed to maintaining sufficient areas of natural open space and sustaining the permanent viability of unique landforms and ecosystems (General Plan pg. V-6).

The vision of the County expressed in its General Plan is also in jeopardy. Corridors and areas may not be preserved for distinctive purposes, including multi-purpose open space; economic development; agriculture; residences; and public facilities (General Plan pg. V-11). The rich diversity of the County's environmental resources may not be preserved and enhanced for the enjoyment of present and future generations (General Plan pg. V-11). The public may not have access to recreation opportunities (General Plan pg. V-11). There may not be expanded local employment opportunities (General Plan pg. V-12). Development may not occur where appropriate and where adequate public facilities and services are available (General Plan pg. V-15). Agricultural lands may not remain as a valuable form of development (General Plan pg. V-22).

The following General Plan Policies will be affected by the large number of approved and pending solar power plants:

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- Land Use Element Policy LU 2.1.c. - the County shall provide a broad range of land uses, including a range of residential, commercial, business, industry, open space, recreation and public facility uses (General Plan pg. LU-20).
- Land Use Element Policy LU 5.1- the County shall ensure that development does not exceed the ability to adequately provide supporting infrastructure and services (General Plan LU-24).
- Land Use Element Policy LU 7.1 - the County shall accommodate the development of a balance of land uses that maintain and enhance the County's fiscal viability, economic diversity and environmental integrity (General Plan LU-26).
- Land Element Policy LU 8.1 - the County shall provide for the permanent preservation of open space lands that contain important natural resources and scenic and recreational values (General Plan LU-28).
- Land Use Element Policy LU 13.1 - the County shall preserve and protect outstanding scenic vistas and visual features for the enjoyment of the traveling public (General Plan LU-31).
- Land Use Element Policy LU 15.15 - the County shall permit and encourage, in an environmentally and fiscally responsible manner, the development of renewable energy resources and related infrastructure, including but not limited to, the development of solar power plants in the County of Riverside (General Plan LU-37).

The purposes of this Board policy are to implement these and other General Plan provisions, to ensure that the County does not disproportionately bear the burden of solar energy production, to ensure the County is compensated in an amount it deems appropriate for the use of its real property, and to give solar power plant owners certainty as to the County's requirements.

**Policy:**

To secure public health, safety and welfare, a solar power plant shall be subject to the requirements of this policy as well as the requirements of any applicable ordinance, state or federal law.

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No encroachment permit shall be issued for a solar power plant unless the Board first grants a franchise to the solar power plant owner. No interest in the County's real property, or the real property of any special district governed by the County, shall be conveyed for a solar power plant unless the Board first approves a real property interest agreement with the solar power plant owner. No approval required by Ordinance Nos. 348 or 460 shall be given for a solar power plant unless the Board first approves a development agreement with the solar power plant owner and the development agreement is effective.

Notwithstanding the foregoing, the County may waive the requirement for multiple agreements where otherwise two or more agreements would be required.

Each such franchise, real property interest agreement or development agreement shall include provisions consistent with the following requirements:

**Payment.** The solar power plant owner shall annually pay the County \$640.00 for each acre of land involved in the power production process (hereinafter "net acreage"). The initial payment shall be due within five business days of the commencement of project construction. Subsequent payments shall be due by September 30 of each year.

**CPI Adjustment.** The initial payment, and each subsequent payment shall be adjusted based on the Consumer Price Index, All Urban Consumers, (Los Angeles — Anaheim). In no event, however, shall the Consumer Price Index adjustment be less than one percent nor more than four percent.

**Incentives and Credits.** The following incentives and credits may be applied to reduce the base payment amount as appropriate, but in no event shall a combination of these incentives and credits reduce the adjusted base payment by more than 50 percent:

- **Local Hire Incentive.** For a three calendar year period from the commencement of project construction, the annual base payment may be reduced by \$1,500 for each full time equivalent worker residing in Riverside County prior to the date of hire.
- **Collocation Incentive.** The annual base payment of each participating solar power plant owner may be reduced by five percent for collocation of transmission lines on common poles or by three percent for collocation of transmission lines in a common corridor.
- **Property Tax Credit.** The base payment may be reduced by the amount of the County's 12.44 percent share and the Fire Department's 2.58 percent share of the 1 percent general purpose property taxes and/or possessory interest taxes paid on the

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net acreage in the immediately preceding fiscal year, including any supplemental assessments.

**Suspension of Operations.** If the County causes a solar power plant to stop operating for longer than 90 days for a reason not related to a violation of the terms of any applicable agreement or a violation of the project conditions of approval, the base payment may be reduced by up to 50 percent upon written request of the solar power plant owner for the period of time the solar power plant remains inoperative.

**Sales Tax Surety.** The solar power plant owner shall deliver a letter of credit to the County within five business days of the close of project financing in an amount equal to the sales and use taxes the County estimates will be generated by construction of the solar power plant to ensure such taxes are allocated to the County whenever possible. The solar power plant owner shall provide the information needed by the County to make this estimate. The County shall release annually a portion of the letter of credit equal to the amount of taxes received by the County, as reported by the State Board of Equalization. If, upon completion of construction, the sales and use taxes received are less than the taxes owed, the solar power plant owner shall pay the difference and, upon deposit of such payment in full, the County shall authorize release of the letter of credit.

**Term.** The appropriate agreement shall be for a term coextensive with the operation of the solar power plant.

**Exemption:**

This policy shall not apply to a solar power plant that has a rated production capacity of five or fewer megawatts; provided, however, this exemption shall not apply if the County determines that a solar power plant owner, or an affiliated company, filed separate applications so as to obtain the exemption.

**Exception:**

A solar power plant owner may make a written request to be excepted from this policy at the time the solar power plant owner files an application for a permit or approval described in this ordinance or any time thereafter. The Board may grant the exception request upon a finding of special circumstances. Special circumstances shall include, but not be limited to, a determination that the solar power plant has a substantial benefit to the County above and beyond the payment of required taxes or the implementation of



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mitigation measures identified in any applicable environmental document. Special circumstances shall not include financial or economic hardship.

**Definitions:**

As used in this policy, the following terms shall have the following meanings:

**“Collocation.”** Locating transmission lines either on common poles or in a common corridor no wider than 300 feet either for a distance of at least one mile or, for 80 percent of the length of the longest transmission line, if that line is shorter than one mile.

**“Full-time Equivalent Worker.”** A worker employed for at least 2,080 hours in a calendar year.

**“Net Acreage.”** All areas involved in the production of power including, but not limited to, the power block, solar collection equipment, areas contiguous to solar collection equipment, transformers, transmission lines and/or piping, transmission facilities (on and off-site), service roads regardless of surface type – including service roads between panels or collectors, structures, and fencing surrounding all such areas. Net acreage shall not include off-site access roads or areas specifically set aside either as environmentally sensitive or designated as open space, and shall not include the fencing of such set aside areas.

**“Solar Power Plant.”** A facility used to generate electricity from solar energy where the power plant will be connected to the power grid and the electricity will be used primarily (i.e. more than 50 percent) at locations other than the site of the solar power plant. Solar power plants include power plants using both solar thermal systems and photovoltaic systems to convert solar energy to electricity. Solar thermal systems concentrate heat to drive a turbine which is then used to create electricity from generators and include systems using solar troughs, solar dishes, and solar power towers. Photovoltaic systems use a technology such as solar cells which generates electricity directly from sunlight. A solar power plant does not include a solar energy system as defined in Ordinance No. 348.

**“Solar Power Plant Owner.”** A person or entity developing, owning or operating a solar power plant.

COUNTY OF RIVERSIDE, CALIFORNIA  
BOARD OF SUPERVISORS POLICY

Attachment D

**Policy**

**Subject:**

**SOLAR POWER PLANTS**

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**Integration:**

Board of Supervisors Policy No. B-29 is approved as part of a comprehensive, integrated legislative program which also includes the adoption of General Plan Amendment No. 1080 (Land Use Policy LU 15.15) and Ordinance No. 348.4705. The Board of Supervisors declares that it would not have adopted Board of Supervisors Policy No. B-29 unless General Plan Amendment No. 1080 (Land Use Policy LU 15.15) and Ordinance No. 348.4705 were also adopted and effective. In the event that any provision of Board of Supervisors Policy No. B-29, General Plan Amendment No. 1080 (Land Use Policy LU 15.15) or Ordinance No. 348.4705 is determined to be invalid or unenforceable, in whole or in part, by a court of competent jurisdiction, then Board of Supervisors Policy No. B-29, General Plan Amendment No. 1080 (Land Use Policy LU 15.15) and Ordinance No. 348.4705 shall be deemed invalid in their entirety and shall have no further force or effect.

# **Effect of Proposed Board Policy B-29 on Solar Power Plant Projects**

Prepared by:

Complete Energy Consulting, LLC  
David X. Kolk, Ph.D.

November, 2011

## **Effect of Proposed Board Policy B-29 on Solar Power Plant Projects**

### **Introduction**

The Riverside County Board of Supervisors is considering a policy that would require utility scale solar power plants to annually pay the County up to \$640/acre for each acre used in the power production process. Proponents of these projects claim that the proposed payment would make the projects uneconomic and drive them out of the County.

The analysis presented here suggests that the County's proposed payment will have a minimal impact on solar power plants and will not affect the County's ability to attract and retain those projects. Moreover, the impact of the payment will be reduced by property tax credits and can be even further reduced if the projects take advantage of the incentive programs the County is proposing: a local employment incentive, property tax credit and collocation incentive.

### **Background**

California State Senate Bill 1078<sup>1</sup> initially established the Renewables Portfolio Standard (RPS), requiring investor owned utilities (IOUs) to increase renewable purchases by one percent per year until the total reaches 20 percent of their retail sales by 2017. The 2003 Energy Action Plan accelerated the target date from 2017 to 2010.

Two legislative bills, SB 14 and AB 64, passed the California legislature in September 2009, both of which would have increased the RPS to 33 percent by 2020. However, the Governor vetoed these bills, criticizing their complexity and their failure to streamline the permitting process. Governor Schwarzenegger subsequently issued Executive Order S-21-09, instructing the California Air Resources Board (CARB) to use its authority under AB 32, California's Green House Gas (GHG) legislation, to adopt regulations requiring the state's load serving entities to meet a 33 percent renewable energy standard (RES) target by 2020.

CARB was originally scheduled to vote on the proposed regulation in July 2010 but Governor Schwarzenegger requested that CARB postpone the vote until its September 23, 2010 board meeting, due to the momentum surrounding Senate Bill 722 (SB 722), which would have, among other things, codified a 33 percent RPS by 2020. SB 722 did not pass the legislature before it went to permanent recess on September 1, 2010. The CARB did pass the RES at its September, 2010 meeting, although questions remained regarding the extent to which those regulations would be implemented by a new Governor, the legality of CARB's authority to implement such a regulation and the outcome of state Proposition 23 to delay the implementation of AB 32.

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<sup>1</sup> Sher, Chapter 516, Statutes of 2002.

In the November 2010 elections, Proposition 23 was defeated and Jerry Brown was elected governor. Most key state-level stakeholders, including the California Public Utilities Commission (CPUC), the California Energy Commission, the legislature and CARB, expressed a preference for a statutory RPS goal versus an executive order.

On April 12, 2011, Governor Brown signed Senate Bill X1-2 (aka SB 2), codifying into law an increase of the RPS mandate to 33 percent by 2020.

SB 2 made major modifications to the RPS program, including the use of multi-year compliance periods with incremental targets, the specification of a minimum product content for retail sellers' RPS portfolios that changes with each compliance period and the requirement to enter into contracts with 10-year or longer duration.

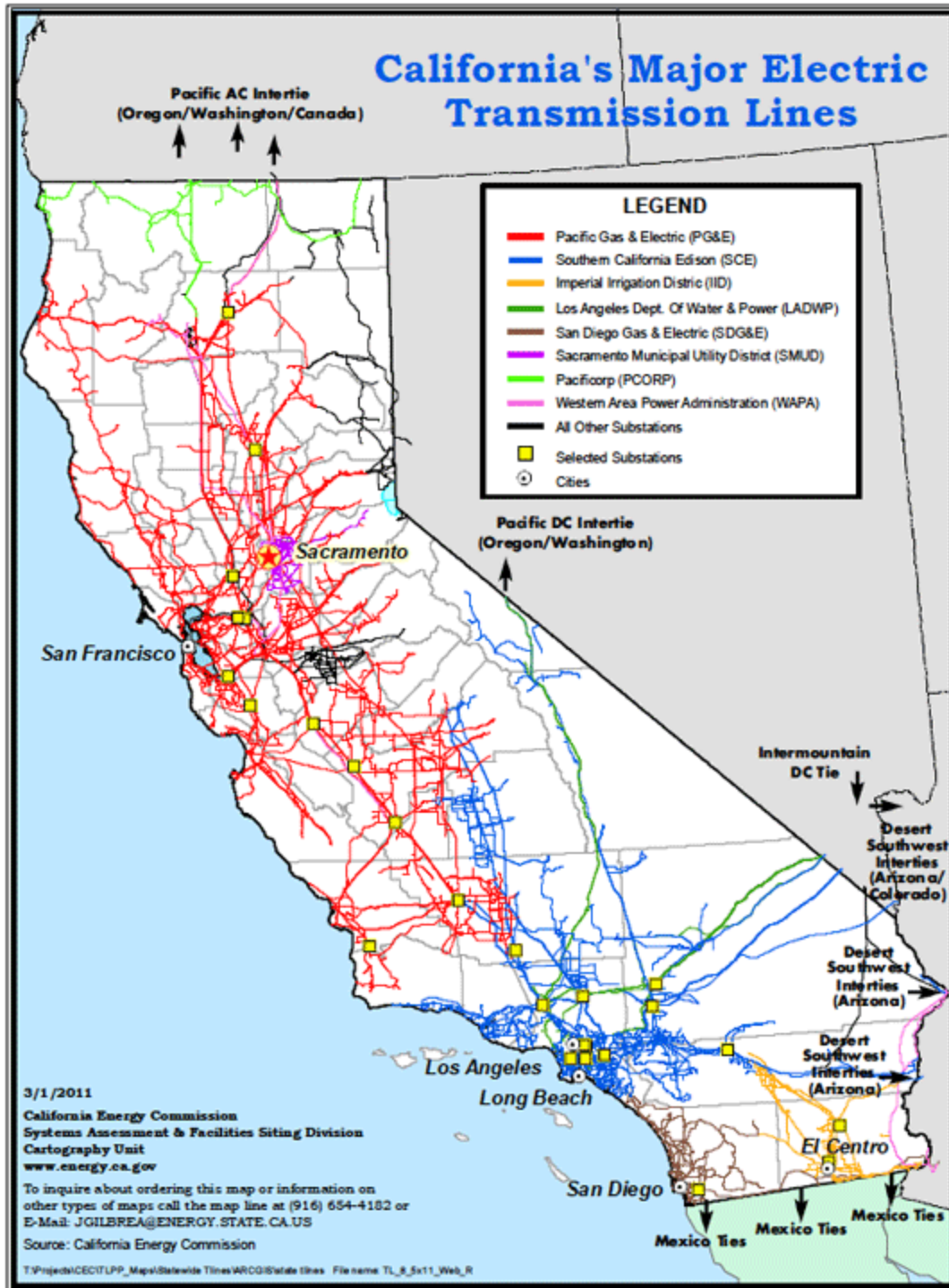
SB 2 also imposed a requirement for in-state resources, modified delivery requirements for out-of-state resources and required the CPUC to establish cost containment limits. SB 2 formally extended the RPS program to publicly owned utilities.

Requiring 75 percent of all renewable resources to be from in-state sources by 2017 has set off a land rush by solar power plant developers to identify and site facilities. Solar power plants cannot be sited just anywhere. Photovoltaic projects require between 5 and 7 acres of land per mega-watt (MW) or between 250 and 350 acres for a typical 50 MW project.

Solar power plants cannot be located near major air routes or military installations because they interfere with visibility. They cannot be located near urban areas with high pollution because the efficiency of the solar collection equipment is adversely affected. They must be sited in areas with no shade, hills or mountains that interfere with the amount of solar energy received. They must also be located near existing transmission lines or the developer has to pay the cost of building expensive interconnection facilities.

Eastern Riverside County is one of the more attractive areas for solar power plants in California. Major transmission lines from the east pass through the I-10 corridor with significant new lines proposed in the 2013-2014 time period. The area has sufficient flat, open areas with high levels of solar radiation. The County is also close to the coastal load centers of Los Angeles, Orange and San Diego counties, helping minimize the need for expensive transmission line upgrades.

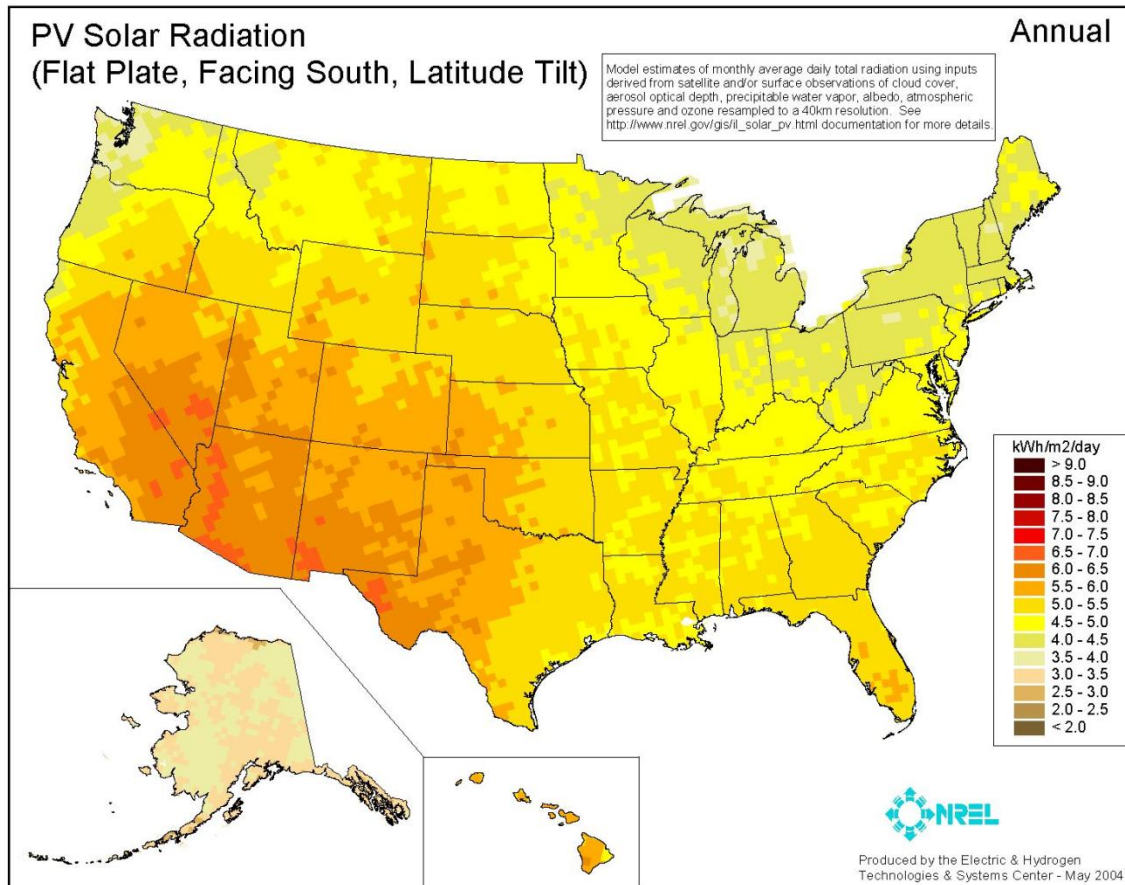
While other areas of California are attempting to attract solar and other renewable developers, transmission constraints and the complexities of finding areas with the necessary environmental attributes and transmission access will continue to make Riverside County a preferred area for solar development even with the County's modest payment proposal.



## Types of Solar Power Plants

Solar power plants can be divided into two categories, photovoltaic (PV) and solar thermal. PV plants convert the sun's energy into electricity without the need for generation facilities. Solar thermal plants use solar energy to create a high temperature

liquid that is used to create steam and turn a generator. Solar thermal generation tends to be more efficient than PV, but PV is easier to construct and operate.



In the past few years, the efficiency of PV has increased and costs have declined making PV plants more competitive with solar thermal plants. A number of solar thermal plants have been re-designed as PV plants to take advantage of the declining costs of PV. The price decline of PV has been due to reduced PV demand in Spain and Germany as well as increased PV production capacity in China.

Solar thermal plants use land more intensively and have much higher initial capital costs than PV plants. However, solar thermal plants produce more energy than PV plants and tend to match the needs of utilities better than PV plants.

## **Capacity versus Energy**

In California, wholesale electricity is priced and sold based upon energy or on a dollar per MWh basis. To understand what this means, it is helpful to see the relationship between land use, capacity and energy.

A generating facility's capacity is the maximum amount of electricity that a generator can produce. A 50 mega-watt (MW) plant can then produce 50 MW at maximum output. Energy is the amount of electricity that it produces during a period, measured in MWh. A 50 MW plant generating 50 MW for 1 hour produces 50 MWh. A 50 MW plant producing 50 MW for 24 hours produces 1,200 MWh.

Most thermal plants can produce during all hours of the day, so they produce more energy than a PV plant. A PV plant can only produce during the day-light hours and even then only reaches full capacity for a few hours during the summer months.

Over a year, a PV plant will only produce energy at around a 23 – 25 percent capacity<sup>2</sup>. A 50 MW PV plant might produce 100,700 MWh over the entire year (as compared to a traditional gas-fired plant that would produce around 394,000 MWh when accounting for maintenance and unplanned outages).

As already noted, PV plants require between 5 and 7 acres of land per MW. So a 50 MW PV plant would need 250 – 350 acres. Solar thermal plants generally require much less land although the amount of land depends upon the technology.

## **Acreage Based Payment**

The County has proposed an annual acreage-based payment of \$640/acre escalating at the CPI. For a typical 50 MW PV project, this equates to an annual payment of approximately \$160,000 (5 acres per MW times 50 MW [250 acres] times \$640/acre). This size and type of project is used throughout this report as the basis for analysis.

## **Impact of Payment on Solar Power Plant Projects**

Electricity in California is priced and sold on a dollar per MWh basis (\$/MWh). Currently, major utilities are purchasing solar energy at a cost of around \$105 - \$115/MWh with an annual escalation of around 2 percent. This price is substantially lower than even 5 years ago when solar developers were able to enter into long-term power purchase agreements (PPAs) for \$135 - \$145 MWh or more.

Obviously, there are many ways to structure payments, financing costs and other cost associated with a project. Some entities may choose a higher \$/MWh cost with lower escalation rates or a flat payment over time. Others may choose a lower initial \$/MWh rate with higher escalation.

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<sup>2</sup> A single axis, fixed PV project. Dual axis PV projects with tracking capability have higher capacity factors



Regardless, from the developer's viewpoint, the key is minimizing the cost of land and transmission interconnection and maximizing generation for the particular technology being employed. Of these factors, the cost paid for transmission interconnection is the most significant.

At \$105/MWh, revenues from a 50 MW PV project will be around \$10,600,000 per year.

The County's proposed payment for a 50 MW PV plant will be around \$160,000 per year.

This base payment translates into a cost per MWh of \$1.59 to the solar developer. Or, at current market levels of \$105-\$115/MWh, the payment is approximately 1.4 to 1.5 percent of total sales revenues.

### **Incentives to Reduce the Base Payment**

The County has identified incentives to solar generator developers that could reduce the base payment. These incentives, which have been discussed with developers during negotiations, provide a credit for property taxes and reward developers that employ Riverside County residents or that are willing to minimize the construction of interconnection facilities by sharing (or collocating) transmission facilities.

#### **Property Tax Payment Credit**

To avoid double-charging solar developers for County services, a credit of the County's 12.44 percent and the Fire Departments 2.58 percent of the 1.00 percent general purpose property tax (or possessory interest taxes) paid in the prior year would be credited to the developer. These credits would be site specific and cannot be valued precisely.<sup>3</sup>

#### **Local Hire Incentive**

During the construction phase each developer may receive a credit of up to \$1,500 against the base payment for each full time employee (equivalent). The value of this credit will depend upon the number of employees hired by the developer. For a 250 acre project that required 50 workers for two years to construct a new project the value of the incentive would be \$75,000 per year.

#### **Collocation Incentive**

One of the major problems with multiple generation facilities located in a region is the visual blight caused by multiple transmission lines used to interconnect the projects. To minimize the number of interconnection facilities, a collocation incentive of up to 5

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<sup>3</sup> For a 250 acre facility with a land cost of \$5,000/acre, property taxes will be around \$12,500 per year of which the County will credit its 12.44 percent share and the Fire Departments 2.58 percent share, resulting in an annual credit of around \$1,880.

percent of the base pay is proposed. This incentive, which would be up to \$8,000 per year for a 250 acre project, would be given to projects that share transmission facilities and would be applied to each generator that collocates transmission lines and jointly uses transmission right-of-ways.

### Impact of the Proposed Incentives

The three proposed incentives have the potential to reduce the base payment to approximately \$80,000 during the construction phase \$150,120 during the operations phase of the project, as shown in the following table.

	Number of Employees	Credit per Employee (\$)	Construction Phase	Operations Phase
Annual Base Payment			\$ 160,000	\$ 160,000
Less Annual Incentives for:				
Local Hire During Construction	50	\$ 1,500	\$ (75,000)	
Property Tax Payment Credit			\$ (1,880)	\$ (1,880)
Collocation Credit			\$ (8,000)	\$ (8,000)
Total Value of Incentives			\$ (84,880)	\$ (9,880)
Recommended Limit on Incentives (Based upon 250 acres)			\$ 80,000	\$ 80,000
<b>Estimated Annual Payment</b>			<b>\$ 80,000</b>	<b>\$ 150,120</b>

Figures based upon a 50 MW PV Facility with 250 acres

### Additional Incentives

Other incentives could be offered to the solar developers to further reduce the base payment. These incentives include an early construction incentive and a permanent employee incentive during the operations phase.

#### Early Construction Incentive

A possible incentive to encourage solar developers to aggressively build their projects is an early construction incentive. This incentive would be provided to a solar developer who began construction prior to a specific date and then worked continuously on their project.

The proposed incentive could be a percentage of the base payment for projects that begin construction within a designated time frame of the County policy being implemented.

The purpose of this incentive would be to encourage solar projects to begin construction as soon as possible to provide needed construction jobs during the current stagnant economic conditions.

## Permanent Employment Incentive

Permanent jobs offer a substantial benefit to the County’s economy. An incentive for creating permanent positions at the solar generation project could be offered at a specific amount a year per job, perhaps a higher amount than the incentive offered for short-term jobs created during the construction phase.

The purpose of this incentive would be to recognize the benefits to the County of creating permanent employment opportunities to County residents with the secondary income effects on the County economy.

## Total Impact of All Incentives

The following table illustrates the potential annual value of all identified incentives to solar developers for a typical 50 MW PV facility with the following assumptions: an early construction incentive that reduces the base payment by 10 percent, a \$2,500 reduction for each permanent job created and 15 permanent jobs created. The values presented below are illustrative and will vary from project to project depending upon a variety of factors. They would likely be greater for a solar thermal facility.

The Table shows that the proposed base payment could be reduced by 50 percent during the construction phase and 30 percent (or more) during the operations phase as a result of the additional incentives.

	Number of Employees	Credit per Employee (\$)	Construction Phase	Operations Phase
Annual Base Payment			\$ 160,000	\$ 160,000
Less Annual Incentives for:				
Local Hire During Construction	50	\$ 1,500	\$ (75,000)	
Property Tax Payment Credit			\$ (1,880)	\$ (1,880)
Collocation Credit			\$ (8,000)	\$ (8,000)
Early Construction Incentive (10 percent of base payment)			\$ (16,000)	
Permanent Employee	15	\$ 2,500		\$ (37,500)
Total Value of Incentives			\$ (100,880)	\$ (47,380)
Recommended Limit on Incentives (Based upon 250 acres)			\$ 80,000	\$ 80,000
<b>Estimated Annual Payment</b>			<b>\$ 80,000</b>	<b>\$ 112,620</b>

Figures based upon a 50 MW PV Facility with 250 acres

As noted, solar thermal plants will benefit more from these credits and incentives than PV plants. Depending upon the technology, thermal storage plants may use anywhere from 65 – 80 percent of the land required by PV facilities on a kW basis. In addition, solar thermal plants generally employ more people than PV plants. Finally, the

advantage of solar thermal plants is that they produce more energy per MW than PV plants.

### **Limitation on Incentive Payments**

Even if a developer takes advantage of all the different incentives offered, it has been recommended that the base payment not be reduced by more than 50 percent. This is appropriate to ensure that the County is properly compensated for the use of its property and does not disproportionately bear the burden of solar energy production.

### **Summary**

The County is attempting to work with solar developers to identify incentives that could be implemented. These incentives can substantially reduce the base payment over time if the developer chooses to make use of them.

The major driver of locating solar projects within California will continue to be transmission interconnection costs. To the extent Riverside County offers better access to new transmission facilities it will continue to have an advantage over other parts of the state in attracting solar projects after the proposed payment is adopted.

There are currently two new transmission lines being planned for eastern Riverside County, the Desert Southwest Project and SCE's Colorado River – Devers Transmission Project. The Desert Southwest Project hopes to be constructed by 2013 although at this time this appears to be optimistic and a 2014 or 2015 time frame appears more likely. The Colorado River – Devers Transmission Project also had a 2013 in-service date and also appears to be delayed by 18 to 24 months. Both of these projects anticipate providing wheeling services to the solar projects in the Blythe to Eagle Mountain area. Either of these projects will provide necessary transmission access for 1,200 – 1,400 MW of solar energy.

Accordingly, the solar power plant payment will not have a significant impact on the size or number of solar projects proposed for Riverside County. It may have a greater impact on the types of projects proposed, with the payment providing a slight advantage for solar thermal plants, given the higher number of jobs created, in comparison to PV facilities.

The County's proposed solar power plant payment is a reasonable way for the County to ensure that it is properly compensated for the use of its property and does not disproportionately bear the burden of solar energy production.