

Issue Paper Number **12-010**



BOARD OF EQUALIZATION
KEY AGENCY ISSUE

- Board Meeting
- Business Taxes Committee
- Customer Services and Administrative Efficiency Committee
- Legislative Committee
- Property Tax Committee
- Other

Guidelines for Active Solar Energy Systems New Construction Exclusion

I. Issue

Should the State Board of Equalization (Board) adopt guidelines to provide county assessors' staff, assessment appeals board members, taxpayer representatives, and others interested in the administration of property taxes in California with information regarding the new construction exclusion for active solar energy systems?

II. Alternative 1 - Staff Recommendation

Staff recommends that the Board adopt the attached *Guidelines for Active Solar Energy Systems New Construction Exclusion* (Attachment A).

III. Other Alternatives Considered – Riverside County Counsel and Inyo County Administrative Officer

The Board could adopt the modified *Guidelines for Active Solar Energy Systems New Construction Exclusion* as requested by the Riverside County Counsel and the Inyo County Administrative Officer (Attachment B).

IV. Background

Section 15606, subdivision (e), directs the Board to prepare and issue instructions to county assessors, such as those set forth in the proposed *Guidelines for Active Solar Energy Systems New Construction Exclusion (Guidelines)*.

Generally, when something of value is physically added to real property, what is added is considered *new construction* and is assessed at current market value. The law requires an assessor to determine the added value for newly constructed property upon completion. Certain types of construction activity, however, are excluded from assessment as new construction. These exclusions are authorized by constitutional amendments. Consequently, while these types of improvements may increase the value of the property, the additional value of these improvements is not assessable because of an exclusion.

In November 1980, the passage of Proposition 7 authorized the exclusion of solar energy systems from the definition of new construction for property taxation purposes by amending Article XIII A, section 2 of the California Constitution. The Proposition 7 ballot language stated:

TAXATION, REAL PROPERTY VALUATION, SOLAR ENERGY SYSTEMS, LEGISLATIVE CONSTITUTIONAL AMENDMENT. Amends Article XIII A, section 2 to authorize Legislature to provide that, in valuing real property, the term "newly constructed" shall not include the construction or addition of any active solar energy system.

Subsequently, the Legislature enacted the solar exclusion in section 73 of the Revenue and Taxation Code, and then reenacted it five more times. Section 73 was initially enacted in 1980 by Senate Bill 1306 to apply to the lien dates for fiscal years 1981 through 1985. In 1985, the sunset date was extended to January 1, 1991 by Assembly Bill 1412. AB 4090 proposed an extension until the 1993-1994 fiscal year, but the bill was vetoed by the Governor. However, on May 14, 1991, the Governor signed Senate Bill 103 extending the section 73 exclusion to January 1, 1995. The exclusion then lapsed until Assembly Bill 1755 was approved by the Governor on September 24, 1998 authorizing the exclusion until 2006. Subsequently, Assembly Bill 1099 (2005) extended the exclusion to 2010, and Assembly Bill 1451 (2008) extended it to January 1, 2017, on which date it is currently scheduled to expire. Additionally, Assembly Bill x1 15 was enacted on June 28, 2011 to, among other things, clarify the Legislature's intent that the exclusion applies to certain types of transactions.

In response to numerous inquiries regarding the section 73 exclusion, in October 2011 Board staff initiated a project to develop guidelines to assist interested parties with the implementation of the new construction exclusion applicable to active solar energy systems. A draft of the proposed *Guidelines* was distributed via Letter To Assessors 2011/039, and an interested parties meeting was subsequently held in Sacramento on January 26, 2012 to discuss the language for the *Guidelines*.

V. Discussion

On February 16, 2012, a letter was received from the County Administrative Officer of Inyo County; and on February 17, 2012, a letter was received from an Assistant County Counsel of Riverside County, both expressing their opinions that the new construction exclusion for active solar energy systems contained in Revenue and Taxation Code section 73 does not extend to large-scale solar facilities. Both counties opine that Proposition 7 identified the beneficiaries of the

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proposed tax exemption as homeowners and businesses who elected to use solar energy to offset their energy expenses and that the exclusion was not intended for large-scale facilities. In a letter dated June 11, 2012 addressed to Inyo and Riverside Counties, the Board's Legal staff opined that large-scale solar power plants are eligible for the solar exclusion.

Board staff does not concur with the opinions of Riverside and Inyo Counties, and submit the following "Alternative 1 - Staff Recommendation" and "Other Alternatives Considered – Riverside County Counsel and Inyo County Administrative Officer" for Board consideration.

VI. Alternative 1 - Staff Recommendation

Staff recommends that the attached proposed *Guidelines for Active Solar Energy Systems New Construction Exclusion (Guidelines)* be adopted and authorized for publication (Attachment A).

A. Description of Alternative 1

Staff recommends that the Board issue guidance that discusses the following issues related to the new construction exclusion for active solar energy systems:

- First buyer exclusion;
- Builders' exclusion;
- Federal tax benefits;
- Sale-leaseback arrangements;
- Partnership flip transactions;
- Applicability of exclusion to commercial, industrial, and utility-scale systems; and
- Various assessment-related considerations.

The proposed *Guidelines* contain information regarding the above issues relative to the section 73 new construction exclusion.

B. Pros of Alternative 1

Alternative 1 is reflective of the best information that is available at this time and will provide a current reference document for county assessors' offices when processing requests for the new construction exclusion. Additionally, Alternative 1 will provide a comprehensive reference for property tax attorneys, taxpayers' representatives, and others interested in property tax assessments in California.

C. Cons of Alternative 1

See "Other Alternatives Considered – Riverside County Counsel and Inyo County Administrative Officer."

D. Statutory or Regulatory Change for Alternative 1

None

E. Operational Impact of Alternative 1

None

F. Administrative Impact of Alternative 1

1. Cost Impact

No cost impact is anticipated. Electronic copies of the *Guidelines* will be distributed.

2. Revenue Impact

None. The *Guidelines* are declarative of existing law.

G. Taxpayer/Customer Impact of Alternative 1

Publication of the proposed *Guidelines* will help to ensure that county assessors' staffs are provided with sufficient information to assist them in processing requests for the new construction exclusion for active solar energy systems.

H. Critical Time Frames of Alternative 1

None

VII. Other Alternatives Considered – Riverside County Counsel and Inyo County Administrative Officer

A. Description of Alternative 2

The Riverside County Counsel's Office and the Inyo County Administrative Officer believe that the proposed *Guidelines* improperly exclude utility-scale solar power plants from the definition of "new construction" for property taxation purposes under the California Constitution.

In a letter dated September 21, 2012, the Riverside Deputy County Counsel stated:

The Proposed Guidelines are premised on the incorrect assumption that California voters authorized such exclusion through their adoption of Proposition 7 in 1980. Proposition 7 amended the California Constitution by authorizing the Legislature to exclude the "construction or addition of any active solar energy system" from assessment as new construction. (Cal. Const. Art. XIII A. Sec. 2(c)(1).) The Legislature then implemented this constitutional amendment with Revenue and Taxation Code section 73 ("Section 73").

The Proposed Guidelines state:

Based on the plain language of Proposition 7, the amending language of the California Constitution, and the implementing language of Revenue and Taxation Code section 73, an active solar energy system subject to the new construction exclusion includes commercial, industrial, *and utility-scale systems* if they are locally assessed....

However, *nothing* in the plain language of Proposition 7, the amending language of the California Constitution, or the initial implementing language of Section 73 suggests that a utility-scale solar energy plant qualifies as an "active solar energy system" under section 2(c) of Article XIII A of the California Constitution.

To the contrary, the California voters who adopted Proposition 7 *never* intended "active solar energy systems" to include utility-scale solar systems—as demonstrated by the ballot materials available to California voters.

...The Proposed Guidelines suggest that the phrase "any active solar energy system" as used in Proposition 7 and the California Constitution "plainly" includes a utility-scale solar power plant because of the word "any."

Use of the word "any," however, sheds no light on California voters' intent as to what constitutes an "active solar energy system." Proposition 7 authorized the Legislature to exclude from tax assessment "any" "active solar energy system"—but only as "active solar energy system" was understood by the California voters who adopted Proposition 7. The term "active solar energy system" is neither defined in Proposition 7 nor does it have a generally accepted meaning. Therefore, the term is ambiguous.

...*Nothing* in the election materials regarding Proposition 7 even suggests that California voters intended the phrase "active solar energy system" to include utility-scale solar power plants. To the contrary, almost *every* sentence in the election materials makes clear that California voters intended "active solar energy system" to include only those systems which could be purchased by *consumers* of energy to reduce their consumption of energy produced off-site.

Senator Alfred Alquist, author of Proposition 7, identified the purpose of Proposition 7 as seeking to "provide a tax incentive to homeowners and businesses for the installation of solar energy systems."

...Section 73, as initially enacted by Senate Bill 1306 [Ch. 1245, Stats. Of 1980], did not define "active solar energy system" and provides no meaningful guidance in determining the will of the electorate.

...a legislature's intent in implementing a constitutional provision lacks significance if that intent does not reflect the intent of the voters who adopted the provision. "An after-the-fact declaration of intent by a drafter of [the constitutional provision] may deserve some consideration but does not govern the court's determination as to how the voters understood the ambiguous provision."

In a letter dated September 21, 2012, the Inyo County Administrative Office stated:

The county continues to believe the Guidelines improperly include utility scale solar energy systems within the definition of "active solar energy system", as that term was intended when Proposition 7 was adopted by the voters in 1980...Moreover, the County wishes to join the comments and analysis submitted by the County of Riverside, which further supports the fact that Proposition 7 and Revenue and Taxation Code section 73 was never intended to apply to commercial scale solar energy systems....

The proposed Guidelines create a presumption which would result in significant fiscal impact to counties hosting large scale solar energy facilities. With the average cost of a utility sized facility reaching nearly \$1,000,000,000, providing the exemption authorized by Proposition 7 will deny local agencies much needed property taxes. An impact of this size and magnitude was not intended by Proposition 7 or presumed by the Board when identifying fiscal impacts resulting from Revenue and Taxation Code section 73 and the

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amendments thereto. The Board should not adopt Guidelines which not only violate the intent of the voters but which exceeds the authority granted by the California Constitution.

And, finally in emails on September 26, 2012, both the Riverside County Counsel and the Inyo County Administrative Office requested that the Board adopt the proposed *Guidelines* in the form and content as issued in the draft on October 13, 2011. They believe that the *Guidelines* as initially proposed by staff correctly applied the spirit and intent of both Proposition 7 and Revenue and Taxation Code section 73. The counties indicated that the later draft reflects the requests from the solar industry to apply Proposition 7 in a manner which was never anticipated nor intended by the voters or the Board itself.

B. Pros of Alternative 2

Those proposing this alternative assert that the adoption of the revised text for the proposed *Guidelines* (see Attachment B) will be reflective of the intent of the California voters, in harmony with the opinions expressed by Riverside and Inyo Counties, to allow for a new construction exclusion for homeowners and small businesses only to reduce their consumption of energy produced off-site.

C. Cons of Alternative 2

Board staff does not concur with the opinions of the Riverside County Counsel and the Inyo County Administrative Officer. Notably, we have not been able to identify any language in Proposition 7, the arguments for and against Proposition 7, or in any enacted version of section 73 that clearly suggests that an active solar energy system must be limited in any way by size, scale, or on-site or off-site usage. There is, in fact, no language distinguishing or restricting active solar energy systems in any way. To the contrary, where "active solar energy system" is used to describe what type of property is eligible to receive the solar exclusion, the modifying word "any" is always used.

Further, section 73, subdivision (b)(3)(C), as currently enacted, states that "solar energy systems" that qualify for the exclusion include those used for the "production of electricity," again with no limitations on either the amount of electricity produced, the size of the facility that produces the electricity, or the location of ultimate usage.

In addition to the language of Proposition 7 and section 73, staff believes that the legislative history in reenacting section 73 (through Senate Bill 103) is compelling since it clearly demonstrates the Legislature's and the Governor's understanding that Proposition 7 authorized the exclusion for commercial scale solar systems. Specifically, the Legislature and Governor stated the following when reenacting section 73.

- At its hearing on January 16, 1991, the Senate Revenue and Taxation Committee discussed that most of the state's expected revenue loss would result from LUZ's [a commercial solar power plant] solar-electric facilities. It was specifically stated that the exclusion would ultimately result in an ongoing loss of \$8 million per year for San Bernardino County due to LUZ's plans to build four new facilities valued at \$200 million each.
- The Legislative Analysis of January 25, 1991 states that qualifying solar energy systems that are not subject to property taxes pursuant to SB 103 "include...large-scale

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solar-electric facilities." It also discussed an annual property tax loss to San Bernardino County of up to \$9.2 million based on the anticipated construction and completion of major solar-electric facilities owned by LUZ.

- The March 18, 1991 report for the hearing at the Assembly Committee on Revenue and Taxation, as well as the bill analysis for the Department of Finance signed on March 15, 1991, extensively discussed the fact that LUZ International, which sells its energy to Southern California Edison, was the primary beneficiary of the economic benefits of SB 103, and described the expected fiscal effect on the state due to the property tax loss resulting from LUZ's property tax exclusion.
- A statement from the Department of Finance which was approved on March 25, 1991 states that "large commercial solar installation owners would experience major savings (estimated to be \$16 million between 1991 and 1994) and that only 20 percent of LUZ's four facilities would be taxable with the passage of SB 103.
- Governor Wilson's press release, announcing the passage of SB 103, stated that LUZ, the "only solar power company in the world," planned to build four more solar thermal electric plants if it could arrange financing, which was based on a continuation of the property tax incentives. Governor Wilson stated the need for utility companies to substantially increase energy resources in California, and suggested that SB 103 would assist solar plants in competing against fossil fuel plants.

In view of the above, it is staff's view that section 73 as enacted did not intend to make any distinction as to the type of active solar energy system that may be excluded.

D. Statutory or Regulatory Change for Alternative 2

None

E. Operational Impact of Alternative 2

None

F. Administrative Impact of Alternative 2**1. Cost Impact**

No cost impact is anticipated. Electronic copies of the *Guidelines* will be distributed.

2. Revenue Impact

None. The *Guidelines* are declarative of existing law.

G. Taxpayer/Customer Impact of Alternative 2

Adoption of the revised *Guidelines* as proposed by Alternative 2 will change a long-standing position held by Board staff regarding the tax consequences for constructing commercial and utility-scale systems in the State of California.

H. Critical Time Frames of Alternative 2

None

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Guidelines for Active Solar Energy Systems New Construction Exclusion

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GUIDELINES FOR APPLICATION OF THE NEW CONSTRUCTION EXCLUSION TO ACTIVE SOLAR ENERGY SYSTEMS

INTRODUCTION

The objective of these guidelines is to provide assessors' staff, assessment appeals board members, taxpayer representatives, and others interested in the administration of property taxes in California with information regarding the new construction exclusion for active solar energy systems, including:

- Definitions
- Assessment responsibility
- First buyer exclusion
- Construction completion
- Leases
- Legal entities
- Decline in value
- Types of uses for active solar energy systems

DEFINITIONS

Active Solar Energy System

An *active solar energy system* is a system that uses solar devices, which are thermally isolated from living space or any other area where the energy is used, to provide for the collection, storage, or distribution of solar energy. Such a system does not include solar swimming pool heaters, hot tub heaters, passive energy systems, or wind energy systems.

An active solar energy system may be used for any of the following:

- Domestic, recreational, therapeutic, or service water heating
- Space conditioning
- Production of electricity
- Process heat
- Solar mechanical energy

An active solar energy system includes storage devices, power conditioning equipment, transfer equipment, and parts related to the functioning of those items. Parts include spare parts that are owned by the owner of, or maintenance contractor for, an active solar energy system for which the parts were specifically purchased, designed, or fabricated for installation in that system. Such a system includes only equipment used up to, but not including, the stage of conveyance or use of the electricity.¹

An active solar energy system does not include auxiliary equipment, such as furnaces or hot water heaters, which use a source of power other than solar energy to provide usable energy. Dual-use equipment, such as ducts and hot water tanks used by both auxiliary equipment and solar energy

¹ Revenue and Taxation Code section 73. All statutory references are to the Revenue and Taxation Code unless specified otherwise.

equipment, is considered active solar energy system property only to the extent of 75 percent of its full cash value.²

Fixtures

Property Tax Rule³ 122.5, *Fixtures*, establishes three tests to determine whether an article is a fixture. The three tests are:

- Physical annexation
- Constructive annexation
- Intent

A typical active solar energy system is considered a fixture, and thus real property, if it meets the tests outlined above.⁴ The exclusion is not applicable to portable active solar energy systems since they are items of personal property.

NEW CONSTRUCTION

Generally, when something of value is physically added to real property, what is added is considered new construction and is assessed at current market value. This value is added to the existing base year value of the real property. *New construction* and *newly constructed* are defined as either (1) any addition to real property (including fixtures), or (2) any alteration of land or of an improvement (including fixtures) which constitutes a major rehabilitation thereof or converts the property to a different use.⁵

The law⁶ requires an assessor to determine the added value for newly constructed property upon completion. The value is established as the base year value for those specific improvements qualifying as new construction and is added to the property's existing base year value(s).

Certain types of construction activity, however, are excluded from assessment as new construction. These exclusions are authorized by constitutional amendment. Consequently, while these types of improvements may increase the value of the property, the additional value of these improvements is not assessable because of an exclusion.

Solar New Construction Exclusion

In 1980, voters approved amendment of section 2(c) of article XIII A of the California Constitution,⁷ giving the Legislature the authority to exclude the construction of certain active solar energy systems from property tax assessment. The new construction exclusion resulted from Proposition 7, a ballot measure to amend the California Constitution. The Proposition 7 ballot language stated:

TAXATION, REAL PROPERTY VALUATION, SOLAR ENERGY SYSTEMS,
LEGISLATIVE CONSTITUTIONAL AMENDMENT. Amends Article XIII A,
Section 2 to authorize Legislature to provide that, in valuing real property, the term

² Section 73.

³ All references to Rules are Property Tax Rules from Title 18, Public Revenues, California Code of Regulations.

⁴ For more information, see Assessors' Handbook Section 504, *Assessment of Personal Property and Fixtures* [www.boe.ca.gov/proptaxes/pdf/ah504.pdf].

⁵ Section 70(a).

⁶ Section 71.

⁷ Proposition 7, Senate Constitutional Amendment 28.

"newly constructed" shall not include the construction or addition of *any active solar energy system*. [Emphasis added.]

With the approval of the voters of Proposition 7 in November 1980, Article XIII A, Section 2 of the California Constitution was amended to read:

...(c) For purposes of subdivision (a), the Legislature may provide that the term "newly constructed" does not include any of the following:

(1) The construction or addition of *any active solar energy system*.... [Emphasis added.]

Subsequent, section 73 of the Revenue and Taxation Code section as added in 1980⁸ and provided:

For purposes of subdivision (a) of Section 2 of Article XIII A of the Constitution, the term "newly constructed" shall not include the construction or addition of *any solar energy system*, as defined in subparagraph (A) of paragraph (6) of subdivision (h) of Section 17052.5.⁹ In the case of solar swimming pool heaters, "new construction" shall not include the increment of cost in excess of the cost of a comparable conventional fossil fuel heating system. [Emphasis added.]

Based on the plain language of Proposition 7, the amending language of the California Constitution, and the implementing language of Revenue and Taxation Code section 73, an active solar energy system subject to the new construction exclusion includes commercial, industrial, and utility-scale systems if they are locally assessed, as outlined below in the *Assessment-Related Considerations* section.

The property tax incentive for the installation of an active solar energy system is in the form of a *new construction exclusion*. It is not an exemption. Therefore, the installation of a qualifying solar energy system will not result in either an increase or a decrease in the assessment of the existing property.

This exclusion remains in effect until a change in ownership of the system occurs. In the event of a partial change in ownership, that portion of the system that changed ownership would be assessable.¹⁰

MAINTENANCE AND REPAIR

Normal maintenance and repair is the action of continuing, carrying on, preserving, or retaining real property or fixtures in proper condition. Maintenance keeps a property in condition to perform efficiently the service for which it is intended and ensures that a property will experience an economic life of typical duration. Normal maintenance is not considered new construction.

Generally, new construction is assessable when that new construction has converted a fixture or any other improvement (or a portion) to a state substantially equivalent to new.¹¹ However, for an active solar energy system, even if new construction activity is such that it renders a system substantially equivalent to new, the new construction activity would be excluded from reassessment pursuant to the provisions of section 73.

⁸ Senate Bill 1306, ch. 1245, Stats. 1980.

⁹ Revenue and Taxation Code section 17052.5(h)(6)(A) defined solar energy systems to include passive thermal systems, semi-passive thermal systems, active thermal systems, photovoltaic systems, and wind driven systems.

¹⁰ For a complete discussion of change in ownership provisions, see Assessors' Handbook Section 401, *Change in Ownership* [www.boe.ca.gov/proptaxes/pdf/ah401.pdf].

¹¹ Rule 463(b)(3) [www.boe.ca.gov/lawguides/property/current/ptlg/rule/463.html].

FIRST BUYER EXCLUSION

Section 73 was modified¹² in 2008 to allow the active solar energy system new construction exclusion to be conveyed to the first buyer of a new building incorporating such a system, if the following conditions are met:

- The owner-builder does not intend to occupy or use the building;
- The owner-builder had not received the active solar energy system new construction exclusion;
- The first buyer purchases the building prior to it becoming subject to reassessment to the owner-builder, as prescribed in subdivision (d) of section 75.12 (a discussion of this section follows); and
- The first buyer files the appropriate claim form¹³ with the assessor.

BUILDERS' EXCLUSION

When real property is being constructed, the assessor must determine the fair market value of the portion of the property that is under construction at each lien date. When the construction is complete, the assessor determines the fair market value of the newly constructed property. Section 71 states:

...New construction in progress on the lien date shall be appraised at its full value on such date and each lien date thereafter until the date of completion, at which time the entire portion of property which is newly constructed shall be reappraised at its full value.

For construction in progress on the lien date, generally it is the builder who is responsible for the property taxes. If the construction involves an active solar energy system, the construction in progress on the lien date would also qualify for the new construction exclusion. However, receipt of the exclusion for construction in progress does not preclude the availability of the exclusion to the first buyer.

Section 75.12 implements the exclusion from supplemental assessment commonly known as the *builders' exclusion*. The exclusion allows builders to avoid reassessment of their inventories. The exclusion is accomplished by deferring the date of assessment of new construction where either:

1. A builder has notified the assessor, prior to or within 30 days of the commencement of construction, that he or she does not intend to occupy or use the property; or
2. The property meets all of the following criteria applicable to the development of residential subdivisions:
 - A. The property is subdivided into five or more parcels in accordance with the Subdivision Map Act, or any successor to that law;
 - B. The map describing the parcels has been recorded; and
 - C. Zoning regulations applicable to the parcels or building permits for the parcels require that, except for parcels dedicated for public use, single-family residences will be constructed on the parcels.

¹² Stats. 2008, ch. 538 (Assembly Bill 1451).

¹³ Form BOE-64-SES, *Initial Purchaser Claim for Solar Energy System New Construction Exclusion*.

For the builders' exclusion, new construction is considered completed at the date upon which the new construction is available for use by the owner, unless the owner does not intend to occupy or use the property. *Occupy or use* means the occupancy or use by the owner, including the rental or lease of the property.¹⁴ Property is not considered occupied if the occupancy or use is in conjunction with an offer for a change in ownership, such as use of the property as a model home.¹⁵

The builders' exclusion applies only to the initial supplemental assessment for the completion of new construction. It does not preclude the assessment of construction on the assessment roll on the lien date following the date of completion of construction or to any other supplemental assessments on the property, such as the change in ownership related to the initial acquisition of the property. In other words, on the lien date, completed new construction and incomplete construction in progress should be assessed at full value. Full value for completed new construction would be determined as of the date the construction is completed.

The following examples illustrate the application of the builders' exclusion.

Example 1

A builders' exclusion was in place for a home with an active solar energy system, which was started in March 2009, and completed on August 15, 2009. No supplemental assessments would have been enrolled during construction. The home was sold on or before December 31, 2009. The initial purchaser *would* be eligible for the new construction exclusion for the solar energy system.

Example 2

A builders' exclusion was in place for a home with an active solar energy system, which was started in March 2009, and completed on August 15, 2009. The home was sold on February 3, 2010. Construction was 100 percent complete on the January 1, 2010 lien date for purposes of determining the assessed value of the property for the 2010-2011 regular roll. The builder would receive the active solar energy system exclusion when the lien date value is established. The initial purchaser *would not* be eligible for the new construction exclusion for the solar energy system since the owner-builder received the new construction exclusion when the lien date value was established.

Example 3

With no builders' exclusion in place, construction of a warehouse with an active solar energy system was started by a builder in March 2010. Construction was 80 percent complete on January 1, 2011, at which time the value of the construction in progress would have been enrolled. The portion of the active solar energy system that was installed would have been excluded. Completion of construction occurred in February 2011, at which time the value of the new construction would have been enrolled, resulting in a supplemental assessment. The owner-builder would receive the solar energy system exclusion. Upon subsequent sale in December 2011, the initial purchaser *would not* be eligible for the new construction exclusion for the solar energy system since the owner-builder already received the benefit of the new construction exclusion.

¹⁴ Section 75.12(b)(1).

¹⁵ Section 75.12(b)(2).

FEDERAL TAX BENEFITS

In 2011,¹⁶ the Legislature added intent language declaring that section 73 was enacted to encourage the building of active solar energy systems, and provided scenarios whereby taxpayers may benefit from the section 73 new construction exclusion.

The amendment to section 73 declared that newly constructed active solar energy systems are often sold or transferred in sale-leaseback arrangements, partnership flip structures, or other transactions to purchasers that may also be eligible for federal tax benefits. As long as the active solar energy system is newly constructed or added and another taxpayer has not received an exclusion for the same active solar energy system, it is the intent of the Legislature that the purchaser of the active solar energy system in a transaction such as that described above receive an exclusion.

The author of AB X1 15 (Hill), stated to the Assembly:

This bill is necessary to ensure that thousands of existing and future solar installation projects throughout the state can continue to utilize tax exclusions and financing mechanisms authorized by Revenue and Taxation Code Section 73. It has come to the author's attention that there may be questions about whether the Legislature intended to grant authority under Section 73 to permit new active solar energy system projects to be financed. Such financing takes many forms, including loans, sale-leaseback arrangements and similar transactions. AB X1 15 is declarative of the Legislature's intent in enacting and periodically amending Revenue and Taxation Code Section 73 that financing mechanisms are permitted under Revenue and Taxation Code Section 73 and Proposition 7. The provisions in AB X1 15 are declaratory of existing law in order to remove any questions or ambiguity that may have arisen regarding Revenue and Taxation Code 73 in implementing Proposition 7.

The legislative intent declared that newly constructed active solar energy systems that are constructed as freestanding or parking lot canopies, or that are constructed as installations on existing buildings qualify for the exclusion from classification as newly constructed under Section 73 of the Revenue and Taxation Code, including active solar energy systems sold in sale-leaseback arrangements, partnership flip structures, or other transactions.

Thus, this legislation ensures that newly constructed active solar energy systems transferred using sale-leaseback and similar arrangements that require the solar energy system to be sold or transferred to a third party that may qualify for federal tax benefit will continue to receive the property tax exclusion.

Because the active solar energy system new construction exclusion was for the purpose of encouraging the building of active solar energy systems, and states explicitly that it covers "other transactions," the new construction exclusion should also be applied to active solar energy systems that are transferred during construction. Therefore, the exclusion is applicable until a taxpayer receives the exclusion on a completed system that is considered a change in ownership under sections 61(j), 64(c), or 64(d). Additionally, construction in progress on the lien date would also qualify for the exclusion.

¹⁶ Stats. 2011, ch. 3 (Assembly Bill 15 of the First Extraordinary Session [AB X1 15]), in effect June 28, 2011.

The legislation further clarified that the new construction exclusion remains in effect only until there is a subsequent change in ownership, and that systems qualifying for an exclusion prior to January 1, 2017 will continue to be excluded on and after that date until there is a change in ownership.

COMMON TRANSACTIONS THAT MAY BE ELIGIBLE FOR FEDERAL TAX BENEFITS

Sale-Leasebacks

Sale-leaseback transactions involve the sale of a property in which the seller immediately begins to lease the property from the buyer. Thus, the seller no longer has ownership of the property, but operates it for the duration of the lease agreement.

Under federal law, the owner-builder is given three months from the time a solar energy system is placed in service to enter the sale-leaseback transaction.¹⁷ Following the lead of the Legislature and aligning with federal law on this issue, parties to such transactions should be allowed a limited window (three months) for the transfer of the system after its completion. This limited period (mirroring federal law) allows the owner-builder to arrange for and execute the transaction post-construction.

Partnership Flip Transactions

A partnership flip transaction is a financing arrangement between a renewable energy developer and a single or multiple tax investors whereby the parties form a partnership or limited liability company to develop and/or own a solar energy system. This structure involves the tax investor making an investment in the partnership or limited liability company in exchange for the majority of the tax attributes (i.e., federal tax credits, depreciation, and net income) until the investor achieves its pre-established yield. The investor's share of these items is then reduced. The reduction is known as the "flip."

If the investment made by the tax investor causes it to obtain more than 50 percent of the capital and profits interests of the partnership or limited liability company (either upon the making of the initial investment or pursuant to subsequent changes in the capital and profits percentages owned by the investor required by the partnership or operating agreement), the change in control is excluded by the new construction exclusion and no reassessment of the active solar energy system will occur.

However, if the developer or a third party subsequently obtains more than 50 percent of the capital and profits interests of the partnership or limited liability company, a change in control and reassessment of the solar energy system will occur.

If the investment made by the investor does not result in its obtaining more than a 50 percent interest in the capital and profits, no change in control results (and, thus, use of the new construction exclusion is not necessary) and no reassessment of the active solar energy system will occur, including on the "flip."

¹⁷ See Internal Revenue Code (IRC) section 50(d)(4) making applicable the provisions of paragraphs (2) and (3) of IRC section 48(b) in effect the day before enactment of the Revenue Reconciliation Act of 1990 (relating to certain leased property apply for specified energy property) (If property is "...sold and leased back by such person, or...leased to such person...within 3 months after the date such property was originally placed in service,...such property shall be treated as originally placed in service not earlier than the date on which such property is used under the leaseback (or lease)...." (IRC section 48(d)(2) and (3) in effect prior to Revenue Reconciliation Act of 1990.)

ASSESSMENT-RELATED CONSIDERATIONS

Property Tax Rule 905¹⁸

Rule 905, *Assessment of Electric Generation Facilities*, subsection (a), defines the assessment of electrical generation facilities, and states:

(a) Commencing with the assessment for the lien date for the 2003 assessment year, an electrical generation facility shall be state assessed property for purposes of article XIII, section 19 of the California Constitution if: (1) the facility has a generating capacity of 50 megawatts¹⁹ or more; *and* (2) is owned or used by a company which is an *electrical corporation* as defined in subdivisions (a) and (b) of section 218 of the Public Utilities Code; or, the facility is owned or used by a company which is a state assessee for reasons other than its ownership of the electric generation facility or its ownership of pipelines, flumes, canals, ditches, or aqueducts lying within two or more counties....
[Footnote and emphasis added.]

Systems that do not meet the definitions of Rule 905 are assessed by the assessor of the county where the facility is located.

In accordance with Public Utilities Code section 218, a solar electric generating facility is subject to local assessment because:

- The generation of electricity by an active solar energy system is considered the production of power from other than a conventional power source; and
- Such power is sold or transmitted to an electrical corporation or state or public agency.

Systems subject to local assessment are excluded from the definition of new construction by section 73.

Locally-Assessed Property

In a utility-scale system, the final stage of power generation is typically a "step up" transformer, where the output voltage is increased to meet the transmission grid voltage requirements. Thus, equipment up to and including the final step-up transformer within the on-site substation would be considered part of the active solar energy system, and subject to the new construction exclusion. Equipment after that point would not be eligible for the exclusion.

For large scale thermal power plants, where a heat transfer fluid (HTF) is heated by focused mirrors and then generates steam for the turbine(s), there are two considerations:

1. In a solar only system, with no auxiliary energy source such as natural gas, there are no dual-use components. The entire plant, up through the power block, is eligible for the 100 percent exclusion.
2. In a dual-use system, the HTF within the central receiver is heated by both solar energy and an auxiliary energy source, such as natural gas. The central receiver, or boiler, is considered dual

¹⁸ See also section 721.5.

¹⁹ One megawatt is enough energy to power 1,000 average homes.

use, and is eligible for the 75 percent exclusion. All equipment downstream of the boiler is also considered dual use.

Parking Lot Canopies

The legislative intent of AB X1 15 stated:

That newly constructed active solar energy systems that are constructed as freestanding or parking lot canopies, or that are constructed as installations on existing buildings qualify for the exclusion from classification as newly constructed under Section 73 of the Revenue and Taxation code, including active solar energy systems sold in sale-leaseback transactions.

Parking lot canopies that are built for the purpose of providing a mounting surface for solar energy devices, while incidentally providing shade for automobiles, qualify for the new construction exclusion. Canopy mounted systems may also provide direct charging stations for hybrid or electric vehicles.

State-Assessed Property

State-assessed property is not subject to the provisions of article XIII A (Proposition 13), and, therefore, is assessed at fair market value annually on the lien date. Generally, the State Board of Equalization assesses electric generation facilities with a generating capacity of 50 megawatts or more but excludes qualifying small power production facilities and qualifying cogeneration facilities.

LEASES

Leased Equipment

For active solar energy systems that are leased to the property owner for a term of less than 35 years, ownership of the system remains with the leasing company for the duration of the lease. Therefore, the system is excluded from the definition of new construction at the time of installation, and continues to be excluded from assessment until a change in ownership of the system occurs.

At the end of the lease term, some options for the lessee, and the effect of those options on the status of the active solar energy system, include:

- Extension of the lease for an additional period, resulting in no change in the assessment status of the system.
- Purchase of the system by the lessee, which terminates the new construction exclusion and makes the system assessable.
- Removal of the system, resulting in no change to the assessed value of the "host" property.

In the case of a pending sale of the host property, some options for the property owner prior to sale include:

- Lease buyout, which terminates the new construction exclusion and makes the system subject to assessment.

- Transfer of the lease to the purchaser, upon approval of the leasing company, resulting in no change in the assessment status of the system.

Leased Land or other Leased Real Property

Systems that are installed on leased land or leased building rooftops are also subject to the new construction exclusion and are not assessable until a change in ownership of the system occurs.

A *taxable possessory interest* is a taxable interest held by a private possessor in publicly owned real property. When the lease between a private entity and a governmental agency involves government-owned land or buildings, a taxable possessory interest in the real property is created. Although the active solar energy system is not assessable, the possessory interest must be valued and assessed.²⁰

LEGAL ENTITIES

Consistent with AB X1 15, active solar energy systems owned by a legal entity, such as a corporation, limited liability company (LLC), or partnership, are also excluded from the definition of new construction and are excluded from assessment. However, a change in ownership inconsistent with AB X1 15 would terminate the new construction exclusion for the active solar energy system.

This section describes rules applicable to legal entities in general that may also apply to legal entities that own active solar energy systems.²¹

There are two types of transfers involving legal entities that may trigger a change in ownership of real property:

- A transfer of real property between an individual and an entity or between entities; and
- A transfer of an interest in an entity.

A change in ownership would terminate the new construction exclusion for the active solar energy system.

Transfer of Real Property of a Legal Entity

Generally, a transfer of any interest in real property from an individual to a legal entity, from a legal entity to an individual, or between legal entities is a change in ownership.²²

However, any transfer of real property between an individual or individuals and a legal entity, or between legal entities, that results solely in a change in the method of holding title to the real property, and in which the proportional ownership interests of the transferors and transferees in each and every piece of real property transferred remain the same after the transfer, is excluded from a change in ownership.²³ This is commonly known as the *proportional ownership interest transfer exclusion*. If the transaction is subject to this exclusion, the active solar energy system remains excluded from assessment. The persons holding the ownership interests in the transferee entity are deemed "original

²⁰ Rule 20, *Taxable Possessory Interests* [www.boe.ca.gov/lawguides/property/current/ptlg/rule/20.html].

²¹ For a comprehensive discussion of the change in ownership provisions for legal entities, see Assessors' Handbook Section 401, *Change in Ownership*, September 2010, Chapter 6 [www.boe.ca.gov/proptaxes/pdf/ah401.pdf].

²² Section 61(j); Rule 462.180, *Change in Ownership – Legal Entities* [www.boe.ca.gov/lawguides/property/current/ptlg/rule/462-180.html].

²³ Section 62(a)(2). Reorganizations of affiliated corporations are governed by section 64(b).

co-owners" for purposes of determining whether a change in ownership occurs upon subsequent transfers of the ownership interests in the legal entity under section 64(d).²⁴

If the ownership interests are not identical after the transfer, then the real property interest transferred is subject to reassessment, not only the disproportionate interest.²⁵

Transfer of Interests in a Legal Entity

Generally, transfers of interests in legal entities do not constitute changes in ownership of the real property owned by those legal entities.²⁶ Thus, purchases or transfers of corporate voting stock, partnership ownership interests, LLC membership interests, or ownership interests in other legal entities are not changes in ownership of the real property owned by the legal entity.

However, there are two exceptions to this general rule. First, when a *change in control* of the legal entity occurs, all real property owned by the entity will be reassessed.²⁷ Second, when a legal entity's *original co-owners*²⁸ cumulatively transfer more than 50 percent of their ownership interests in that legal entity, the real property previously excluded from change in ownership under section 62(a)(2), including the active solar energy system, will be reassessed.

Nonprofit Organizations

Nonprofit organizations that are receiving the Welfare, Church, or Religious Exemption may continue to qualify for the exemption if they enter into an agreement with a for-profit entity to install and operate a solar energy system on their property if the solar energy system is used to produce electricity for the nonprofit's own use.

One of the basic requirements for the Welfare, Church, or Religious Exemption is that the property must be *used exclusively* for a qualifying exempt purpose. The Revenue and Taxation Code does not specifically define the term *used exclusively*, but the courts have done so. The Supreme Court in *Cedars of Lebanon*²⁹ determined that the phrase *exclusively used* may not be given a literal interpretation so as to mean that the property exempted must be used solely for the purposes stated to the total exclusion of any other use. Instead, the Supreme Court held that *used exclusively* for exempt purposes includes any property which is used exclusively for any facility which is incidental to and reasonably necessary for the accomplishment of the exempt purpose.

Therefore, while a nonprofit organization may not own the solar-powered system and allows a solar installer to place the system on its roof (to produce electricity for the nonprofit organization), that fact does not disqualify any portion of the property, including the portion specifically used for placement of the system, from exemption. The roof is not being used inconsistently with the nonprofit's exempt purpose, and use of the roof by the solar installer is incidental to the provision of solar-generated electricity pursuant to its service contract with the nonprofit organization.

DECLINE IN VALUE

Section 51 requires that the assessor annually enroll the lesser of a property's factored base year value or its full cash value (market value) as of the lien date. *Full cash value* is defined as the amount of cash

²⁴ Rule 462.180.

²⁵ Rule 462.180(d)(4).

²⁶ Section 64(a).

²⁷ Section 64(c)(1).

²⁸ Section 64(d).

²⁹ (1950) 35 Cal.2d 729, 746.

or its equivalent that property would bring *if exposed for sale* in the open market under conditions in which neither buyer nor seller could take advantage of the exigencies of the other.³⁰ Since an estimate of full cash value for decline-in-value purposes is made as if the property was exposed for sale, the full cash value should not be reduced by the value of any excluded new construction because real property being made available for sale would include all segments of the appraisal unit. This analysis is made for ***comparison purposes only*** to determine the lesser of the fair market value or the factored base year value of the appraisal unit. Comparing the factored base year value with the current market value is necessary in order for the assessor to enroll the lesser value on the lien date as required by law. This analysis **does not** affect the factored base year value nor the status of any previously excluded new construction.

Appraisal Unit

For decline-in-value purposes, the appropriate *appraisal unit*³¹ must be established. Section 51 provides:

...(d) For purposes of this section, "real property" means that ***appraisal unit that persons in the marketplace commonly buy and sell as a unit, or that is normally valued separately.*** [Emphasis added.]

Rule 324, subdivision (b), interprets and applies section 51 as follows:

...An appraisal unit of property is a collection of assets that functions together, and that persons in the marketplace commonly buy and sell as a ***single unit or that is normally valued in the marketplace separately from other property, or that is specifically designated as such by law.*** [Emphasis added.]

Rule 461 provides:

...(e) Declines in value will be determined by comparing the current lien date full value of the appraisal unit to the indexed base year full value of the same unit for the current lien date. Land and improvements constitute an appraisal unit except when measuring declines in value caused by disaster, in which case land shall constitute a separate unit. For purposes of this subsection ***fixtures and other machinery and equipment classified as improvements constitute a separate appraisal unit.***... [Emphasis added.]

In most cases, the identification of the appraisal unit is obvious and causes few problems. Since the objective of the appraisal is to determine the market value of the property, the market also must determine the proper appraisal unit. The proper appraisal unit to be valued normally is the unit that persons in the marketplace typically buy and sell together as a single unit. For example, single-family homes are sold as a combination of land and buildings, including those fixtures, such as water heaters, that generally sell together with homes. This combination of land and improvements, therefore, comprises the typical appraisal unit for single-family homes. Although a solar energy system is technically a fixture, it would not be valued as a separate appraisal unit because in the marketplace solar energy systems normally are sold together with residential property as one unit.³²

³⁰ California Constitution article XIII, section 1, and article XIII A, section 1; Section 110.

³¹ Rule 461 [www.boe.ca.gov/lawguides/property/current/ptlg/rule/461.html.]

³² Section 51(d); Rule 324(b).

In some cases, however, the identification of the appraisal unit for decline-in-value purposes may not be as easily discernible as in the case of single-family homes. In those cases, the appraiser must use judgment in determining the proper unit. These decisions must reflect, as faithfully as possible, the unit most likely to be sold if the property were exposed to the open market. Accordingly, in a commercial, industrial, or utility-scale system environment, because active solar energy system fixtures commonly are sold separately, they typically would constitute a separate appraisal unit.

Example 4

A property owner installs a qualified active solar energy system on a single-family residential home, and the system is appropriately excluded from assessment as new construction. The following January 1 lien date, the assessor reviews the property for a possible decline in value. When comparing the factored base year value with the current market value, the assessor would include the current market value of the active solar system as part of the current market value for the entire property since the appraisal unit for a single-family residence is the entire property. The current market value for the entire property would be compared to the factored base year value, and the lesser of the two values enrolled.

January 1 Factored Base Year Value of Residence (Excluding Value of Solar System)		\$489,426
January 1 Market Value of Residence	\$425,500	
January 1 Market Value of Solar System	<u>24,000</u>	
January 1 Market Value of Property		\$449,500

Since the market value of the property, \$449,500, is less than the factored base year value of the property, \$489,426, the assessor would enroll the current market value for the January 1 lien date.

Example 5

A property owner leases a roof-top active solar energy system from DRK Solar Company and has it installed on a single-family residential home. The system is appropriately excluded from assessment as new construction. The following January 1 lien date, the assessor reviews the property for a possible decline in value. When comparing the factored base year value with the current market value, the assessor would not include the current market value of the active solar system as part of the current market value for the entire property since the system is only leased by the owner of the residential property and it is owned by the solar company. The current market value of the land and improvements, excluding the solar system, would be compared to the enrolled factored base year value, and the lesser of the two values enrolled.

Example 6

A property owner installs a qualified active solar energy system on a commercial warehouse, and the system is appropriately excluded from assessment as new construction. The following January 1 lien date, the assessor reviews the property for a possible decline in value. When comparing the factored base year value with the current market value, the assessor would have two appraisal units: one for the land and improvements (other than fixtures), and one for the fixtures, including the current market value of the active solar system. The current market value for each appraisal unit

would be compared to the respective enrolled factored base year value, and the lesser of the two values enrolled.

However, if the owner of the commercial warehouse leases the active solar system, then, as in Example 5, the value of the active solar system would be excluded in the current market value of the fixtures for the decline-in-value comparison.

Example 7

A property owner installs a qualified active solar energy system with dual-use pipes and ducts used in conjunction with his wind energy system to produce electricity for agricultural crop maintenance. For application of the new construction exclusion, the dual-use equipment is considered active solar energy system property only to the extent of 75 percent of its full cash value.³³ For decline-in-value purposes, the assessor would have two appraisal units: one for the land and improvements (other than fixtures), and one for fixtures, including the current market value of the active solar system. The current market value for each appraisal unit would be compared to the enrolled factored base year value, and the lesser of the two values enrolled.

Example 8

A locally-owned utility company installs a qualified active solar energy system to augment their production of electricity which is sold to the community. The following January 1 lien date, the assessor reviews the property for a possible decline in value. When comparing the factored base year value with the current market value, the assessor would compare the current market value of all fixtures, including the active solar energy system, with the factored base year value of the fixtures, and the lesser of the two values enrolled.

³³ Section 73(d)(2).

TYPES OF USES FOR ACTIVE SOLAR ENERGY SYSTEMS

Active solar energy systems may be installed in several application environments, including but not limited to:

- Residential
- Commercial or industrial
- Government
- Agricultural
- Property of exempt organizations

Electrical Generating Systems – Residential

Figure 1 depicts the components of a typical solar electrical generating system. Depending on the application, systems may or may not contain battery banks.

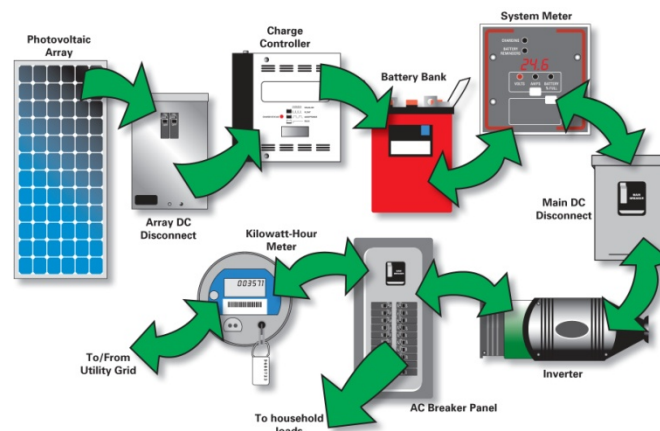


Figure 1. Typical Grid-Connected PV System³⁴

Many newer residential developments include energy efficient building enhancements. A solar electric system is often available as either a standard or optional feature. The majority of these types of systems do not have the battery backup shown in Figure 1.

Any excess electricity generated by the system during the day is provided to the grid, effectively selling it to the utility. The power output capability of this type of system is typically in the range of 2 – 5 kW.³⁵

³⁴ Reprinted with permission. © 2009 Home Power, Inc., [www.homepower.com].

³⁵ 1 kW (kilowatt) equals 1,000 watts.

The typical system included with residential new construction may include component parts such as solar tiles rather than panels. When added to an existing residential structure, the system typically uses solar panels.

Electrical Generating Systems – Commercial or Industrial PV

Systems designed for commercial or industrial environments are significantly larger than the residential systems. They are designed to provide a significant amount of the daily energy requirement of the building upon which they are installed. The power output of these systems range from several hundred kW to over a megawatt.³⁶

Electrical Generating Systems – Utility-Scale PV

Large scale systems can generate power outputs in the range of 100 MW to 1,000 MW, equivalent to the power output of a conventional power plant.

Figure 2 provides an example of a large scale photovoltaic system.



Figure 2. Solar Tracking PV Array

Parking Structures

Parking lot canopies that are built for the purpose of providing a mounting surface for solar energy devices, while incidentally providing shade for automobiles, qualify for the new construction exclusion.

Canopy mounted systems may also provide direct charging stations for hybrid or electric vehicles.

Figure 3 shows an example of a solar parking lot canopy.

³⁶ A megawatt is equal to one million watts.



Figure 3. Solar parking lot canopy

Thermal Systems – Passive

Buildings may be designed to optimize the collection of solar energy for heating, ventilation, and daytime lighting. These structures are categorized as *passive solar* and are not excluded from the definition of new construction by section 73.

Passive systems are inherent to the structural design and site of the building and contain no active components.

Figure 4 provides an example of a passive solar residential structure.



Figure 4. Passive Solar Architecture³⁷

Thermal Systems – Active

Active thermal systems are found in many applications, including but not limited to:

- Water heating (domestic, commercial, and industrial)
- Space heating and cooling and process heating
- Electricity generating facilities
- Pool and spa heating³⁸

³⁷ All photographs in this document are courtesy of DOE/NREL.

³⁸ Pool, spa, and hot tub heaters are not eligible for the new construction exclusion.

Electrical Generating Systems – Utility-Scale Thermal

Large scale thermal systems typically use either:

- Parabolic trough technology to solar heat a heat transfer fluid, which generates steam through a steam turbine generator to produce electrical power; or
- Heliostats which focus sunlight on a single target to heat a transfer medium, which generates steam through a steam turbine generator to produce electrical power.

Figure 5 illustrates a large scale thermal system.



Figure 5. Active Large Scale Thermal System

Solar Water Heating

Although not as widely implemented as solar electric generation systems, the installed base of solar water heating systems will likely grow in the next few years.

The *Solar Water Heating and Efficiency Act of 2007*³⁹ is intended to facilitate the installation of at least 200,000 solar water heating systems on homes, businesses, and government buildings throughout California by 2017. This program is to be coordinated with the Energy Commission's New Solar Homes Partnership to achieve the goal of building "zero-energy" homes.

The photographs in Figure 6 show typical water heating system solar collectors.



³⁹ Public Utilities Code sections 2860 through 2867.4; Stats. 2007, ch 536 (Assembly Bill 1470).

Figure 6. Medium and Small-Scale Solar Water Heating – Roof Mount

As previously noted, dual-use equipment, such as ducts and hot water tanks used by both auxiliary equipment and solar energy equipment, is considered active solar energy system property only to the extent of 75 percent of its full cash value.

Space Conditioning

Several methods of using solar energy for space and process heating are in use today. Two websites provide a good overview of the different types of systems:

- The U.S. Department of Energy's Federal Energy Management Program at <http://www1.eere.energy.gov/femp/>; and
- The U.S. Department of Energy's National Renewable Energy Laboratory at <http://www.nrel.gov/>.

One example of a space heating technology is depicted in Figure 7. The *transpired solar collector* is an effective and simple technique for pre-warming air for an industrial building. In the example, the perforated dark-colored collector is mounted to a south-facing wall. Air is drawn through the perforations, warmed by the collector, and distributed to ductwork by the ventilation fan. The outside air temperature can be increased significantly by this type of system.

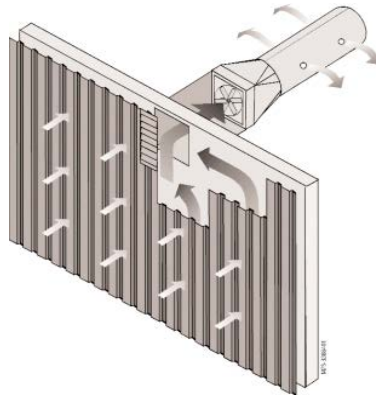


Figure 7. Transpired Solar Collector Diagram

Process Heating

Process heating, used in industrial environments, generally requires the development of much higher temperatures for the production of steam or high heat. Figure 8 shows a *parabolic trough* system, where a highly reflective parabolic surface concentrates sunlight upon a central liquid-carrying tube. Systems like this are capable of producing process heat and steam in the temperature range of 200° - 400°F.



Figure 8. Parabolic Trough Collector

FREQUENTLY ASKED QUESTIONS AND ANSWERS

General Information

- 1. Has the sunset date for the active solar energy system new construction exclusion been extended?**

Yes, effective September 28, 2008, the sunset date for the active solar energy system new construction exclusion was extended through the 2015-16 fiscal year. The statute is now scheduled to sunset on January 1, 2017.

- 2. How does this new construction exclusion for solar energy systems work?**

Generally, when something of value is physically added to real property, the addition is assessed at current market value and this value is added to the existing base year value of the real property. When an active solar energy system is installed, it is not assessed, meaning that the existing assessment will not increase.

Leases and Ownership

- 3. A company has contracted with a local government agency to lease the roof of the agency's building, install an active solar electrical generating system, and sell the electricity to the agency. Is the solar energy system assessable?**

No. The system is excluded from the definition of new construction and is, therefore, not assessable. However, a taxable possessory interest in the roof area may have been created when the lease was executed.⁴⁰

- 4. A homeowner installed an active solar energy system last year and financed it with a capital lease. The leasing company was advised to report the system as machinery and equipment on their annual 571-L Business Property Statement, and the homeowner subsequently received a tax bill. Is this correct?**

No. The system is excluded whether it is leased or owned. The real property appraiser in the assessor's office should coordinate information with the business property auditor-appraiser when a permit for construction is issued.

- 5. If an active solar energy system is installed on an existing structure (store, shopping mall, parking structure, office building, etc.) and the ownership of the active solar energy system is vested in a multi-member LLC, is the new construction exclusion still applicable for this installation, or is the active solar energy system considered to be assessable business property to the LLC? Does it matter if the active solar energy system will be powering general business occupancy requirements or specialized fixtures?**

The active solar energy system would be classified as a fixture (real property) if it meets the tests of Rule 122.5, and would be excluded from the definition of new construction if it meets the definitions of section 73. Therefore, it would not be considered assessable business

⁴⁰ Rule 20, *Taxable Possessory Interests* [www.boe.ca.gov/lawguides/property/current/ptlg/rule/20.html].

property. Ownership of the system is not a condition of exclusion. Further, there are no specific use requirements for the energy produced by the system.

Residency Requirement

- 6. The corporate headquarters of a company is in New Jersey, but the corporation owns a building in Los Angeles upon which was installed an active solar energy system. Is the new construction exclusion limited to California residents or entities?**

No. There are no residency provisions for the owner of a solar energy system.

Property Type

- 7. Does the new construction exclusion for active solar energy systems apply only to residential buildings?**

No. The exclusion is not restricted to residential buildings.

Initial Purchaser

- 8. In February 2008, I purchased a recently constructed home that had an integrated solar energy system. The completion of construction was July 3, 2007. Can I claim an exclusion as the initial purchaser?**

No. The provisions of the new construction exclusion to the initial purchaser for a solar energy system are *prospective*, and only qualifying improvements completed on or after January 1, 2008 are eligible for the exclusion.

- 9. If a builder is fully assessed for a newly constructed home on the lien date (January 1) following the date of completion of new construction and the initial purchaser buys the property after the lien date, is the initial purchaser eligible for the active solar energy new construction exclusion?**

No. Since the builder was assessed on the lien date following the date of completion of the new construction, the subsequent purchaser is not eligible for the solar energy system new construction exclusion.

Example: A home with an active solar energy system is completed on November 15, 2009, and the new construction of the home is 100 percent complete on the lien date for purposes of determining the assessed value of the property for the 2010-2011 regular roll. If the home sold on or before December 31, 2009, the initial purchaser *would* be eligible for the new construction exclusion for the solar energy system. If the home did not sell until after the lien date, for example January 2, 2010, the initial purchaser *would not* be eligible for the new construction exclusion for the solar energy system because the builder would receive the exclusion as of the lien date.

Filing

- 10. Does a property owner have to file an application to get this exclusion?**

A property owner who adds an active solar energy system to an existing structure does not have to file for the exclusion. The exclusion should be automatically granted when the assessor receives a copy of the building permit.

However, if a developer installs an active solar energy system while constructing a new building, the initial purchaser of that building may receive the exclusion if (1) the building was completed on or after January 1, 2008, (2) the developer/builder did not receive the exclusion, and (3) the purchaser files a form with the assessor. The form is called the *Initial Purchaser Claim for Solar Energy System New Construction Exclusion* and is available from the assessor of the county where the property is located. After the assessor receives this form, the new base year value of the building may be reduced by the value of the active solar energy system, less any rebates or tax credits received. The builder will be able to provide the value of the system and any rebates or tax credits that they received.

The following table arrays the changes that the Riverside County Counsel and the Inyo County Administrative Office want the Board to consider when adopting the *Guidelines for Active Solar Energy Systems New Construction Exclusion*. (See "Other Alternative Considered – Riverside County Counsel and Inyo County Administrative Officer.")

PAGE	BOE STAFF RECOMMENDED TEXT	RIVERSIDE COUNTY COUNSEL AND INYO COUNTY ADMINISTRATIVE OFFICER RECOMMENDED TEXT
1	<p>An <i>active solar energy system</i> is a system that uses solar devices, which are thermally isolated from living space or any other area where the energy is used to provide for the collection, storage, or distribution of solar energy. Such a system <u>does not</u> include solar swimming pool heaters, hot tub heaters, passive energy systems, or wind energy systems.</p>	<p>An <i>active solar energy system</i> is a system that uses solar devices, which are thermally isolated from living space or any other area where the energy is used to provide for the collection, storage, or distribution of solar energy. Such a system <u>does not</u> include solar swimming pool heaters, hot tub heaters, passive energy systems, or wind energy systems, <u>utility-scale photovoltaic systems, utility-scale solar thermal systems or any other systems which have as their primary purpose the production of energy for offsite sale and consumption.</u></p>
3	<p>In 1980, voters approved amendment of section 2(c) of article XIII A of the California Constitution,⁴¹ giving the Legislature the authority to exclude the construction of certain active solar energy systems from property tax assessment. The new construction exclusion resulted from Proposition 7, a ballot measure to amend the California Constitution. The Proposition 7 ballot language stated:</p> <p style="padding-left: 40px;">TAXATION, REAL PROPERTY VALUATION, SOLAR ENERGY SYSTEMS, LEGISLATIVE CONSTITUTIONAL AMENDMENT. Amends Article XIII A, Section 2 to authorize Legislature to provide that, in valuing real property, the term "newly constructed" shall not include the construction or addition of <i>any active solar energy system</i>. [Emphasis added.]</p> <p>With the approval of the voters of Proposition 7 in November 1980, Article XIII A, Section 2 of the California Constitution was amended to read:</p> <p style="padding-left: 40px;">...(c) For purposes of subdivision (a), the Legislature may provide that the term "newly constructed" does not include any of the following:</p>	<p>In 1980, voters approved amendment of section 2(c) of article XIII A of the California Constitution,⁴¹ giving the Legislature the authority to exclude the construction of certain active solar energy systems from property tax assessment. The new construction exclusion resulted from Proposition 7, a ballot measure to amend the California Constitution. The Proposition 7 ballot language stated:</p> <p style="padding-left: 40px;">TAXATION, REAL PROPERTY VALUATION, SOLAR ENERGY SYSTEMS, LEGISLATIVE CONSTITUTIONAL AMENDMENT. Amends Article XIII A, Section 2 to authorize Legislature to provide that, in valuing real property, the term "newly constructed" shall not include the construction or addition of <i>any active solar energy system</i>. [Emphasis added.]</p> <p>With the approval of the voters of Proposition 7 in November 1980, Article XIII A, Section 2 of the California Constitution was amended to read:</p> <p style="padding-left: 40px;">...(c) For purposes of subdivision (a), the Legislature may provide that the term "newly constructed" does not include any of the following:</p>



⁴¹ ~~Proposition 7, Senate Constitutional Amendment 28.~~



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3 Cont.	<p>(2) The construction or addition of <i>any active solar energy system</i>.... [Emphasis added.]</p> <p>Subsequent, section 73 of the Revenue and Taxation Code section as added in 1980⁴² and provided:</p> <p>For purposes of subdivision (a) of Section 2 of Article XIII A of the Constitution, the term "newly constructed" shall not include the construction or addition of <i>any solar energy system</i>, as defined in subparagraph (A) of paragraph (6) of subdivision (h) of Section 17052.5.⁴³ In the case of solar swimming pool heaters, "new construction" shall not include the increment of cost in excess of the cost of a comparable conventional fossil fuel heating system. [Emphasis added.]</p> <p>Based on the plain language of Proposition 7, the amending language of the California Constitution, and the implementing language of Revenue and Taxation Code section 73, an active solar energy system subject to the new construction exclusion includes commercial, industrial, and utility-scale systems if they are locally assessed, as outlined below in the <i>Assessment-Related Considerations</i> section.</p>	<p>(3) The construction or addition of <i>any active solar energy system</i>.... [Emphasis added.]</p> <p>Subsequent, section 73 of the Revenue and Taxation Code section as added in 1980⁴² and provided:</p> <p>For purposes of subdivision (a) of Section 2 of Article XIII A of the Constitution, the term "newly constructed" shall not include the construction or addition of <i>any solar energy system</i>, as defined in subparagraph (A) of paragraph (6) of subdivision (h) of Section 17052.5.⁴³ In the case of solar swimming pool heaters, "new construction" shall not include the increment of cost in excess of the cost of a comparable conventional fossil fuel heating system. [Emphasis added.]</p> <p>Based on the plain language of Proposition 7, the amending language of the California Constitution, and the implementing language of Revenue and Taxation Code section 73, an active solar energy system subject to the new construction exclusion includes commercial, industrial, and utility scale systems if they are locally assessed, as outlined below in the <i>Assessment-Related Considerations</i> section.</p>
9/10	<p>In accordance with Public Utilities Code section 218, a solar electric generating facility is subject to local assessment because:</p> <ul style="list-style-type: none"> • The generation of electricity by an active solar energy system is considered the production of power from other than a conventional power source; and • Such power is sold or transmitted to an electrical corporation or state or public agency. <p>Systems subject to local assessment are excluded from the definition of new construction by section 73.</p> <p>Locally-Assessed Property</p>	<p>In accordance with Public Utilities Code section 218, a solar electric generating facility is subject to local assessment because:</p> <ul style="list-style-type: none"> • The generation of electricity by an active solar energy system is considered the production of power from other than a conventional power source; and • Such power is sold or transmitted to an electrical corporation or state or public agency. <p>Systems subject to local assessment are excluded from the definition of new construction by section 73.</p> <p>Locally-Assessed Property</p>

⁴² Senate Bill 1306, ch. 1245, Stats. 1980.

⁴³ Revenue and Taxation Code section 17052.5(h)(6)(A) defined solar energy systems to include passive thermal systems, semi-passive thermal systems, active thermal systems, photovoltaic systems, and wind driven systems.

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9/10 Cont	<p>In a utility-scale system, the final stage of power generation is typically a "step up" transformer, where the output voltage is increased to meet the transmission grid voltage requirements. Thus, equipment up to and including the final step-up transformer within the on-site substation would be considered part of the active solar energy system, and subject to the new construction exclusion. Equipment after that point would not be eligible for the exclusion.</p> <p>For large scale thermal power plants, where a heat transfer fluid (HTF) is heated by focused mirrors and then generates steam for the turbine(s), there are two considerations:</p> <ol style="list-style-type: none"> 1. In a solar only system, with no auxiliary energy source such as natural gas, there are no dual-use components. The entire plant, up through the power block, is eligible for the 100 percent exclusion. 2. In a dual-use system, the HTF within the central receiver is heated by both solar energy and an auxiliary energy source, such as natural gas. The central receiver, or boiler, is considered dual use, and is eligible for the 75 percent exclusion. All equipment downstream of the boiler is also considered dual use. 	<p>In a utility-scale system, the final stage of power generation is typically a "step up" transformer, where the output voltage is increased to meet the transmission grid voltage requirements. Thus, equipment up to and including the final step-up transformer within the on-site substation would be considered part of the active solar energy system, and subject to the new construction exclusion. Equipment after that point would not be eligible for the exclusion.</p> <p>For large scale thermal power plants, where a heat transfer fluid (HTF) is heated by focused mirrors and then generates steam for the turbine(s), there are two considerations:</p> <ol style="list-style-type: none"> 1. In a solar only system, with no auxiliary energy source such as natural gas, there are no dual-use components. The entire plant, up through the power block, is eligible for the 100 percent exclusion. 2. In a dual-use system, the HTF within the central receiver is heated by both solar energy and an auxiliary energy source, such as natural gas. The central receiver, or boiler, is considered dual use, and is eligible for the 75 percent exclusion. All equipment downstream of the boiler is also considered dual use.
14	<p>In some cases, however, the identification of the appraisal unit for decline-in-value purposes may not be as easily discernible as in the case of single-family homes. In those cases, the appraiser must use judgment in determining the proper unit. These decisions must reflect, as faithfully as possible, the unit most likely to be sold if the property were exposed to the open market. Accordingly, in a commercial, industrial, or utility-scale system environment, because active solar energy system fixtures commonly are sold separately, they typically would constitute a separate appraisal unit.</p>	<p>In some cases, however, the identification of the appraisal unit for decline-in-value purposes may not be as easily discernible as in the case of single-family homes. In those cases, the appraiser must use judgment in determining the proper unit. These decisions must reflect, as faithfully as possible, the unit most likely to be sold if the property were exposed to the open market. Accordingly, in a commercial, <u>or</u> industrial, or utility-scale system environment, because active solar energy system fixtures commonly are sold separately, they typically would constitute a separate appraisal unit.</p>

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15	Accordingly, in a commercial, industrial, or utility-scale system environment, because active solar energy system fixtures commonly are sold separately, they typically would constitute a separate appraisal unit.	Accordingly, in a commercial, <u>or</u> industrial, or utility-scale system environment, because active solar energy system fixtures commonly are sold separately, they typically would constitute a separate appraisal unit.
16	<p>Example 8</p> <p>A locally-owned utility company installs a qualified active solar energy system to augment their production of electricity which is sold to the community. The following January 1 lien date, the assessor reviews the property for a possible decline in value. When comparing the factored base year value with the current market value, the assessor would compare the current market value of all fixtures, including the active solar energy system, with the factored base year value of the fixtures, and the lesser of the two values enrolled.</p>	<p>Example 8</p> <p>A locally-owned utility company installs a qualified active solar energy system to augment their production of electricity which is sold to the community. The following January 1 lien date, the assessor reviews the property for a possible decline in value. When comparing the factored base year value with the current market value, the assessor would compare the current market value of all fixtures, including the active solar energy system, with the factored base year value of the fixtures, and the lesser of the two values enrolled.</p>
18	<p>Electrical Generating Systems – Utility-Scale PV</p> <p>Large scale systems can generate power outputs in the range of 100 MW to 1,000 MW, equivalent to the power output of a conventional power plant.</p> <p>Figure 2 provides an example of a large scale photovoltaic system.</p>  <p>Figure 2. Solar Tracking PV Array</p>	<p>Electrical Generating Systems – Utility-Scale PV</p> <p>Large scale systems can generate power outputs in the range of 100 MW to 1,000 MW, equivalent to the power output of a conventional power plant.</p> <p>Figure 2 provides an example of a large scale photovoltaic system.</p>  <p>Figure 2. Solar Tracking PV Array</p>

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20	<p>Electrical Generating Systems – Utility-Scale Thermal</p> <p>Large scale thermal systems typically use either:</p> <ul style="list-style-type: none"> • Parabolic trough technology to solar heat a heat transfer fluid, which generates steam through a steam turbine generator to produce electrical power; or • Heliostats which focus sunlight on a single target to heat a transfer medium, which generates steam through a steam turbine generator to produce electrical power. <p>Figure 5 illustrates a large scale thermal system.</p>  <p>Figure 5. Active Large Scale Thermal System</p>	<p>Electrical Generating Systems – Utility-Scale Thermal</p> <p>Large scale thermal systems typically use either:</p> <ul style="list-style-type: none"> • Parabolic trough technology to solar heat a heat transfer fluid, which generates steam through a steam turbine generator to produce electrical power; or • Heliostats which focus sunlight on a single target to heat a transfer medium, which generates steam through a steam turbine generator to produce electrical power. <p>Figure 5 illustrates a large scale thermal system.</p>  <p>Figure 5. Active Large Scale Thermal System</p>