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LOAN GUARANTEES FOR INNOVATIVE ENERGY TECHNOLOGIES— A WORK IN PROGRESS

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The opinions expressed in this Article are those of the author personally and are not the viewpoint of the U.S. Department of Energy or the U.S. government, or any other entity.

Why Was It Passed?

Title XVII of the Energy Policy Act, Sections 1701-1704 of the Energy Policy Act of 2005, Pub. L. No. 109-58, (to be codified at 42 U.S.C. 16,511-16,514) re-introduces a once popular federal energy financing mechanism of loan guarantees to encourage early commercial use in the United States of new or significantly improved technologies in energy projects. For a review of the previous Department of Energy Loan Guarantee Programs during the 1980s for incentivizing alternative energy technologies, *see*, John A. Herrick, *Federal Project Financing Incentives for Green Industries: Renewable Energy & Beyond*, 43 NAT. RESOURCES J. 77, at 79-83 (2003). Congress, in re-authorizing loan guarantees under the new Title XVII authority for innovative energy technologies, intends for the United States Department of Energy (DOE) to incentivize the accelerated commercial use of new and significantly improved technologies which will

help sustain economic growth, yield environmental benefits, and produce a more stable and secure energy supply and economy. DOE also intends the eligible projects will meet the Bush administration's Advanced Energy Initiative to change the way Americans fuel their cars and power their homes. Loan guarantees will be another tool that DOE intends to use to promote commercial use of innovative technologies. This tool is targeted at early commercial use only, not energy research, development and demonstration programs.

What Will It Do?

Title XVII authorizes DOE to make loan guarantees for projects that "avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases; and employ new or significantly improved technologies as compared to commercial technologies in service in the United States at the time the guarantee is issued." 42 U.S.C. 16513 (a). Title XVII identifies 10 categories of technologies that, if employed in commercial projects, are potentially eligible for a loan

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On behalf of the energy committees, Andrew Ratzkin was editor of this issue. The other Energy Committee newsletter vice chairs are Jeffrey M. Gray, James E. Hickey, Jr., Marla E. Mansfield, Lauren McGregor, Peter D. Mostow, Jamie Rhymes and Roger Stark.

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guarantee. 42 U.S.C. 16513 (b). Title XVII identifies 10 discrete categories of projects that are eligible for a loan guarantee, including those that employ:

- (1) renewable energy systems;
- (2) advanced fossil energy technology (including coal gasification meeting the criteria in paragraph 42 U.S.C. 16513(d));
- (3) hydrogen fuel cell technology for residential, industrial or transportation applications;
- (4) advanced nuclear energy facilities;
- (5) carbon capture and sequestration practices and technologies, including agricultural and forestry practices that store and sequester carbon;
- (6) Efficient electrical generation, transmission and distribution technologies;
- (7) efficient end-use energy technologies;
- (8) production facilities for fuel efficient vehicles, including hybrid and advanced diesel vehicles;
- (9) pollution control equipment; and
- (10) refineries, meaning facilities at which crude oil is refined into gasoline. There are additional criteria (regarding emissions) for Integrated Gasification Combined Cycle projects, Industrial Gasification Projects, Petroleum Coke Gasification projects and Liquefaction Projects.

On Aug. 14, 2006 DOE published policy guidelines to support the first round of loan guarantee solicitations (71 Fed. Reg. 46451, hereinafter referenced as the “Guidelines”). In conjunction with issuing the Guidelines, DOE made available the first solicitation for Pre-Applications for Federal Loan Guarantees for “Projects that Employ Innovative Technologies” by posting it on the Internet at www.lgprogram.energy.gov/. All loan guarantee applications for projects submitted in response to the first solicitation are to be issued pursuant to the Guidelines; while all subsequent solicitations and loan guarantee commitments will be governed by a rulemaking that will be undertaken by DOE in the near future after the promulgation of a final regulation applicable to the DOE Loan Guarantee Program. That rulemaking should iron out the problems and barriers that are experienced under the initial solicitation. This article will discuss the issues that could arise under the initial solicitation that may need further development and review prior to final regulations being promulgated.

What Are the Steps for Obtaining a Loan Guarantee?

The initial solicitation, in essence, provides for a five-step application process for the initial round of loan guarantees: *First*, an applicant must submit a pre-application, limited to 100 pages, on or before Dec. 31, 2006. (The original submittal date of Nov. 6, 2006 was extended on Oct. 23, 2006 in order to allow the numerous parties who expressed interest in the program time to consider whether they wish to participate and to give some parties the extension of time they requested to develop and prepare materials to support their submission in response to the solicitation.) *Second*, upon favorable review by DOE, DOE will invite pre applicants to submit a full application. Only those pre-applicants invited can submit a full application. *Third*, after a period of review and discussions DOE will offer a term sheet to those applicants so selected. This term sheet provides the general terms and conditions of a potential loan guarantee agreement. *Fourth*, upon successful negotiations, DOE will convert the term sheet to a conditional commitment to enter into a loan guarantee. *Finally*, if those conditions are fully met by an applicant, DOE will execute a loan guarantee agreement (LGA).

Extent of the DOE Guarantee in the Project Financing

The principal purpose of the Title XVII loan guarantee program is to encourage early commercial use in the United States of “Eligible Projects,” that employ “new or significantly improved technologies as compared to commercial technologies in service in the United States at the time the guarantee is issued.” Guidelines, § II.I. A “commercial technology” is defined in the Act as “technology in general use in the commercial marketplace.” Guidelines, § II.F. Therefore, it is highly likely that the DOE’s loan guarantee program will not be scoped for those technologies that are limited to the research, development and development stage, since 42 U.S.C. 16512(d) also requires a “reasonable prospect of payment” of all loan or debt obligations issued to finance a project, which implies that technologies for eligible project proposals must be

mature enough to assure dependable commercial operations and generate sufficient revenues to service the project’s debt.

Because Title XVII limits eligibility for loan guarantees to only those projects that employ new or significantly improved technologies as compared to technologies in general use in the commercial marketplace, DOE’s focus in issuing loan guarantees will be on innovative energy and energy-efficiency technologies. It is unclear at this point whether DOE’s loan guarantee program will concentrate on both first-of-a-kind large-scale energy production facilities, or on those technologies that already have been commercially developed but are not in “general” use in today’s energy marketplace. The total initial debt funding ceiling that the guarantees will support in the initial solicitation will not exceed \$2 billion for all eligible projects in the aggregate. So it is likely DOE will approve relatively smaller scale projects consisting of a diverse group of projects to test the viability of the Loan Guarantee Program.

To balance the twin goals of issuing loan guarantees of: (a) encouraging the early commercial use of new or significantly improved technologies in Eligible Projects while (b) limiting the financial exposure of the federal government; DOE expressed a preference in the Guidelines for guaranteeing no more than 80 percent of the total face amount of any single debt instrument. The guidelines further provided that DOE will not guarantee 100 percent of the loan or other debt obligations. This will allow the private sector lending community to bear some of the financial risk of the loan and to perform greater due diligence when monitoring the progress of the project. Whether these concerns will be bourn out under the initial round of applications will be seen, but DOE should gain valuable experience from the first round of loan guarantee proposals submitted under the Guidelines to determine whether a ceiling should be placed on the loan guarantee percentage.

In addition, the guidelines provide that any loan guarantee issued by DOE may not exceed 80 percent of Total Project Costs which are defined as those that are necessary, reasonable, and directly related to the design, construction, and startup of a project.

661b (a), DOE will then perform its own independent calculation of the Subsidy Cost and will consult and obtain the approval of the Office of Management and Budget (OMB) for this computation prior to entering into any Loan Guarantee Agreement. The amount of equity participation, the percentage of debt guaranteed by the federal government, the length of term of the debt, the interest rate on the debt, and the other material aspects of the financing structure of the loan and loan guarantee are all factors that DOE could consider in computing the Subsidy Cost. DOE is working on a model to calculate Subsidy Costs for different projects.

Under the Guidelines, the federal government will not be placed at risk for financing the Subsidy Cost and therefore will not guarantee any portion of project debt that includes the subsidy cost. Additionally, the Borrower paid Subsidy Cost can not be paid from the proceeds of federally guaranteed or funded debt. This will have the effect of potentially reducing the amount of the loan guarantee that a borrower may receive and may increase the financing costs associated with a project, however the Guidelines indicate that those factors do not outweigh the policy considerations associated with the federal government backing the risk associated with this cost. In some instances it may result in potential applicants finding the “cost of the Subsidy Cost” too rich for the project to bear, and consider the benefits of the Loan Guarantee to be too slim in comparison, that they may elect not to avail themselves of the Program. At best, the type of projects that would apply would likely be those backed by high equity and considerably lower market risk, thus precluding lending to unique or non-proven technologies with fairly high market value and low market risk. Whether the experience DOE gleans under the initial solicitation bears this out will be subject to further review under the future rulemaking.

In addition to the Subsidy Cost, Title XVII requires DOE to recover its loan guarantee program costs by collecting fees to cover the administrative expenses of issuing loan guarantees. The law also provides DOE with discretion regarding the amount of fees it imposes to cover applicable administrative costs. In the initial solicitation, DOE elected not to impose fees upon pre-

applicants, but left open charging fees to applicants who are invited to submit a full application. DOE made this election so as not to discourage potential project sponsors from submitting pre-applications. However, it is reasonable to believe that once a conditional commitment is entered into by DOE, which triggers the full faith and credit commitment of the federal government, substantial due diligence costs will be encountered by the federal government that will require charging a fee to the borrower. These fees will normally constitute the administrative expenses that DOE incurs during: (1) the evaluation of a Pre-Application and an Application for a loan guarantee; (2) the offering, negotiation and closing of a Loan Guarantee Agreement; and (3) the servicing of the loan guarantee and monitoring the progress of the project (during construction, start-up and the operational phases) benefiting from a loan guarantee issued by DOE. The cost of these as of yet indeterminate fees will not be allowable or eligible for the loan guarantee from this or any other guaranteed funds, and will have to be borne by the Project Sponsors from equity or other non-guaranteed subordinate debt.

Another concern raised by the Guidelines that may need further review is the issue of stripping. In connection with any loan guaranteed by DOE that may be syndicated, traded or otherwise sold on the secondary market, the guidelines require that the guaranteed portion and non-guaranteed portion of the debt instrument be resold together. The guaranteed portion of the debt could not be “stripped” from the non-guaranteed portion, *i.e.*, sold separately as an instrument fully guaranteed by the federal government. This could potentially impede the liquidity of the debt in the secondary market, and affect the overall viability and financing structure of projects.

Another requirement is that the projects subject to the Loan Guarantee program will be subject to National Environmental Policy Act review with commensurate delays in the timing for project commencement.

In addition Project sponsors will have to evaluate the timing and intricacies of the involvement of Treasury and OMB who must review the terms of the loan guarantees.

The experience derived from the initial solicitation and input from the future rulemaking process should provide DOE with guidance on how these issues will be treated in the final regulations. All these matters raise critical questions with regard to success of this program. It will be necessary to await the outcome of the final rulemaking to provide the answers to these and other issues.

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STATE AND LOCAL POLICIES AFFECTING THE ADVANCEMENT OF RENEWABLE ENERGY SOURCES

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Introduction

The development and integration of renewable energy resources with the electric power grid has historically faced numerous hurdles, including recalcitrant utilities, short-sighted regulatory commission policies, electric facility systems not designed to operate as local, vertically integrated systems, markets unable to fully capture the value of such resources and unfavorable economies of scale. Over time, many of these impediments have fallen away, or have been at least partially mitigated—industry restructuring has led to utility structures that can benefit from embracing such resources; regulatory commissions have put into place policies that recognize the benefits of, and encourage, such technologies; reorganized electric grids and improved metering and distribution systems have become better able to accept and measure renewable resources; increasingly sophisticated market structures have developed that can properly value more of renewable energy's attributes; and unit costs have improved. However, obstacles certainly remain, particularly for distributed generation units that can be blocked by a variety of site-specific factors as basic as a neighbor's tree shading a solar collector and homeowner association (HOA) covenants that proscribe siting renewable energy facilities at private residences. Over the summer of 2006, we surveyed the patchwork of state and local policies affecting the installation of distributed renewable energy projects, especially solar facilities, within the United States.

In particular, we focused on four questions:

1. Which jurisdictions create a right to largely obstructed access to insolation?

AMERICAN BAR ASSOCIATION SECTION OF ENVIRONMENT, ENERGY, AND RESOURCES

Calendar of Section Events

Wind Projects Update

Feb. 14, 2007

Multi-Site National Teleconference/
Brown Bag

Converging New Finance Techniques: Renewables, Efficiency, and Demand Reduction

March 21, 2007

Multi-Site National Teleconference/
Brown Bag

25th Annual Water Law Conference

Feb. 22-23, 2007

San Diego, California

36th Annual Conference on Environmental Law

March 8-11, 2007

Keystone, Colorado

15th Section Fall Meeting

Sept. 26-30, 2007

Pittsburgh, Pennsylvania

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Web site at www.abanet.org/enviro/.***

2. Which jurisdictions expressly recognize the creation of solar easements?
3. Which states allow governmental subdivisions to pass zoning ordinances that effectively proscribe the installation of renewable energy facilities?
4. Which states allow HOAs and similar entities to establish rules limiting the ability of property owners to install renewable energy facilities?

In examining these issues, our search was limited to express legislative acts, though where legislative bodies had taken direct action we also examined certain relevant case law affecting the implementation of such legislation. The scale of our efforts did not allow us to search for answers to these questions based solely on the common law. Also, while we identified some local jurisdictions that have taken relevant action, we cannot claim to have conducted an exhaustive review of action at that level.

Also, in examining these questions, we observed that some jurisdictions draw a distinction between passive solar devices and active ones. Where distinctions are made, states generally assign greater protections to active devices, though some states expressly provide equal treatment to both types of devices and many have not addressed the issue directly.

Overview

A good many states have yet to take direct action toward the protection of a property owner's rights to implement on-site renewable energy projects. Just one, California, has created a statutory-based right to access to sunlight for solar power. However, there is a trend toward recognizing that solar easements can run with the land, with 20 states expressly providing for such encumbrances by statute. In the area of zoning, only four states have enacted legislation affecting the ability of local governments to pass zoning ordinances which impact the ability of property owners to install renewable energy facilities. Finally, 10 states have either restricted the ability of HOAs to interfere with the installation of renewable energy facilities or have enacted legislation that allows local governments to impose such restrictions.

Statutory Rights to Solar Access

Residential property owners often have relatively few good choices of where to locate devices drawing energy from solar insolation. A neighbor's structure or tree may cast shadows on these locations and significantly reduce the amount of solar energy that can be captured over the course of a year. California has recognized this situation and responded by enacting legislation giving property owners a right to freedom from certain types of interference with solar insolation. As the sole state to take such affirmative action, California has reinforced its reputation as a leader in environmental and energy policy innovation.

While Oregon has no statute recognizing the right to solar access for the purpose of utilizing solar energy, the state legislature did enact a law that expressly grants local authorities the power to do so.² In turn, the Cities of Ashland and Eugene have utilized such authority to protect solar access. Further, although Colorado has no statewide statute recognizing the right to solar access for the purpose of utilizing solar energy, nor any statute expressly authorizing cities to protect such rights, the City of Boulder nevertheless has taken action in this regard.³

California

California land owners wishing to utilize solar power benefit from the Solar Shade Control Act.⁴ The law prohibits a property owner from allowing a tree or shrub to grow on his property such that it casts a shadow on greater than 10 percent of the absorption area of a previously installed "solar collector."⁵ The Solar Shade Control Act defines "solar collector" as "a fixed device, structure, or part of a device or structure, which is used primarily to transform solar energy into thermal, chemical, or electrical energy."⁶ The Solar Shade Control Act fails to offer comprehensive protection to the right to make use of potential solar insolation in that: (1) the Act does not cover shade caused by structures (though set back requirements and height limitations in zoning ordinances may offer effective protection), (2) existing vegetation trumps new solar collectors (an important consideration in light of the recent solar power renaissance), and (3) the Act

allows cities and counties to opt out of the Act by enacting an ordinance exempting themselves from its jurisdiction.⁷

The Solar Shade Control Act has been litigated on at least two occasions.⁸ *Sher v. Leiderman* involved a dispute between two neighbors.⁹ The Shers' house was constructed with a number of structural features that took advantage of the winter sun for heat and light.¹⁰ The features included skylights, south-facing windows, roof overhangs, roof and wall insulation, a "serrated" wall, and a sunlight-reflecting concrete patio.¹¹ The Leidermans planted trees on their property that, after 20 years of growth, compromised the solar features of the Shers' home.¹² Unable to negotiate a satisfactory resolution with the Leidermans, the Shers filed suit, alleging a violation of the Solar Shade Control Act.¹³

The Deputy District Attorney of Santa Clara County determined that the Act did not apply to the Shers' situation and refused to take action on their behalf.¹⁴ The Shers argued that the Deputy District Attorney had misinterpreted the Act.¹⁵ The trial court agreed, finding that the solar features of the Shers' house were "parts of a structure" and were intended to transform solar energy into thermal energy, qualifying them as solar collectors under the Act.¹⁶

The appellate court overturned the trial court's decision.¹⁷ While agreeing with the Shers and the trial court that certain design features of the Shers' house did make use of solar energy, the court found that converting solar energy into thermal energy was not the *primary* function of those features.¹⁸ The court was especially concerned about the administrative burden local law enforcement agencies would face if they had to determine whether particular windows, patios, and similar architectural elements qualified as solar collectors.¹⁹ The court dismissed the notion that the house itself should be considered a solar collector.²⁰ It took note of the fact that the Solar Shade Control Act subjects solar collectors to specific set-back regulations.²¹ It thus concluded that the legislature must not have intended for the house itself to be a solar collector, because it was already subject to set-back regulations.²² Finally, the court considered the fact that

the legislature could have included "passive or natural systems," such as the features of the Shers' house, in the definition of solar collector, as they were clearly aware of such systems since they are mentioned elsewhere in the code.²³ Presumably, the court was referring to the definition of "solar energy system" in the Solar Rights Act, which includes "structural design feature[s] of a building."²⁴ However, it is not clear that the case would have come out differently if that definition were substituted, since a design feature must still have as its primary purpose the collection, storage or distribution of solar energy in order to qualify as a solar energy system.²⁵

In *Zipperer v. County of Santa Clara*²⁶ the main issue was the opt-out clause of the Act. The Zipperers constructed a solar home in Santa Clara County in the mid-1980s.²⁷ In 1991, the County acquired an adjoining parcel of land.²⁸ Six years later the trees on the county land began to interfere with the sunlight reaching the Zipperers' home, causing the entire solar system to malfunction.²⁹ Though the County promised to correct the situation, no remedial action was taken.³⁰ In 2002, the County opted out of the Solar Shade Control Act.³¹ The Zipperers filed suit in 2004. The trial court dismissed the action, finding that the 2002 opt-out ordinance eliminated the Zipperers' claim.³² On appeal the Zipperers contended that the opt-out ordinance offended constitutional principles because it operated retroactively to defeat their preexisting damage claim.³³ Applying California case law, the court used a four-step analysis in determining that the 2002 opt-out ordinance validly eliminated the Zipperers' claim under the Act.³⁴ First, the Zipperers' claim was not recognized at common law and was therefore entirely dependent on the statute.³⁵ Second, no final judgment had been entered for their claim and thus it was still susceptible to elimination by legislative action.³⁶ Third, the legislature eliminated the statutory remedy before final judgment was entered.³⁷ Fourth, though the normal means of eliminating a statutory remedy is to repeal the statute, in this instance the adoption of the opt-out ordinance was sufficient to eliminate the statutory remedy.³⁸

Santa Cruz

Santa Cruz County has supplemented the protections offered by the Solar Shade Control Act. It limits obstructions created by new construction, as well as those created by vegetation.³⁹ If an owner of a “solar energy system” registers the system with the County, any obstruction to the system must be mitigated to “the maximum extent feasible”.⁴⁰ A “solar energy system” is defined as:

“[a]ny solar collector or other solar energy device, or any structural design feature of a building whose primary purpose is to provide for the collection, storage and distribution of solar energy for space heating or cooling, for water heating or for electricity.”⁴¹

“Feasible” is defined as “[c]apable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental and technological factors.”⁴² The inclusion of the term “structural design feature” effectively applies the protections of the Solar Shade Control Act to all systems that fall within the definition of “solar energy system” in the Solar Rights Act. However, the requirement that the feature’s primary purpose must be solar related leaves situations similar to those found in the *Sher* case without clear protection of the homeowners rights to solar access.

Colorado

City of Boulder

The City of Boulder has developed detailed guidelines to protect solar access.⁴³ Homes in two of the three sections of the city known as “solar access areas” are protected by “solar fences” of either 12 or 25 feet.⁴⁴ Compliance with the guidelines can be determined by measuring the shadow cast by a proposed structure and using a conversion table to determine whether the shadow encroaches into the solar fence.⁴⁵ Those requiring additional protection, either because they do not live in a Solar Access Area protected by solar fences or because they require a larger solar fence, may apply for a “solar access permit.”⁴⁶ Issuance of the permit will protect an existing or proposed solar

energy device from future obstruction, whether caused by vegetation or construction.⁴⁷

The most substantial difference between the Boulder solar access laws and those in Santa Cruz County is that residents living within the solar access areas in Boulder benefit from the law without having to first register their solar energy device. Indeed, it appears that the solar fences will be enforced even in the absence of any solar energy devices.

Oregon

City of Ashland

The City of Ashland has implemented a municipal code, the purpose of which is “to provide protection of a reasonable amount of sunlight from shade from structures and vegetation whenever feasible to all parcels in the City to preserve the economic value of solar radiation falling on structures, investments in solar energy systems, and the options for future uses of solar energy.”⁴⁸ The code provides for protection from shading by structures through setback requirements and height limitations. Protection from shading by vegetation can be obtained by applying for a “Solar Access Permit.”⁴⁹ Thus, while property owners do not need to be proactive to obtain protection from shade caused by structures, they do need to take action to protect their solar collecting devices from shade produced by vegetation.

City of Eugene

The City of Eugene’s “land use code” includes “solar standards,” utilized “to create lot divisions, layouts and building configurations to help preserve the availability of solar energy to one and two family dwellings.”⁵⁰ “Solar lot standards” are established to ensure that newly created lots within subdivision are oriented so as to promote the use of solar energy. “Solar set backs” are established to ensure that construction on an applicable property is set far enough back from the northern side of such property to avoid interfering with sunlight reaching the southern side of the abutting property. No standards are set with regard to vegetation.

Solar Easements

While, as discussed above, California appears to be the only state that has created a statutory right to insolation for the purpose of collecting solar energy, twenty states have taken the step of enacting legislation⁵¹ allowing parties to agree to the creation of solar easements on properties to assure that an adjoining property has unfettered access to sunlight. These states include: Alaska, Idaho, Indiana, Iowa, Kansas, Kentucky, Maryland, Massachusetts, Minnesota,⁵² Missouri, Montana,⁵³ Nebraska,⁵⁴ Nevada, New Jersey, New Mexico, North Dakota, South Carolina, Tennessee, Utah and Virginia. While this may require property owners to compensate their neighbors to secure access to sunlight, it does at least facilitate the creation of a durable right that can last in perpetuity once created.

The Majority Approach—Alaska, Idaho, Indiana, Kansas, Massachusetts, Minnesota, Missouri, Montana, Nebraska, New Jersey, North Dakota, Rhode Island, Utah and Virginia

Fourteen of the 20 states statutorily recognizing solar easements have adopted nearly identical approaches to this concept. New Jersey's law is illustrative:

Any easement obtained for the purpose of exposure of a solar energy device shall be created in writing and shall be subject to the same conveyancing and instrument recording requirements as other easements.⁵⁵

Any instrument creating a solar easement shall include, but the contents shall not be limited to:

- a. The vertical and horizontal angles, expressed in degrees, at which the solar easement extends over the real property subject to the solar easement.
- b. Any terms or conditions or both under which the solar easement is granted or will be terminated.
- c. Any provisions for compensation of the owner of the property benefiting from the solar easement in the event of interference with the enjoyment of the solar easement or compensation of the owner of the property subject to the solar easement for maintaining the solar easement.⁵⁶

Minor variants within this group include, but are not limited to, Massachusetts, which has more detailed provisions on what constitutes an easement, and Kansas and Montana, neither of which require the easement to set forth any provisions for compensating (a) the beneficiary of the easement in the event of interference in contravention of the easement, or (b) the owner of the encumbered property for maintaining the easement.

Iowa

Iowa has adopted a relatively elaborate approach to solar easements. Iowa law provides for voluntary easements, designates that a city council or a county board of supervisors may set up a regulatory board to receive applications for easements and decide on them, and, in absence of such a board, authorizes the state district court to grant easements.⁵⁷ The statute sets forth how to apply for, decide on, and voluntarily create solar easements.⁵⁸

Kentucky

In contrast to Iowa, Kentucky has adopted a less detailed approach than the majority of states. Kentucky law⁵⁹ does not expressly require that the instrument creating the solar easement include the angles at which the easement extends over the encumbered property or any of the other details set forth above in the second paragraph of the New Jersey statute set forth above.

Maryland

The effect and requirements of the applicable Maryland statute⁶⁰ with regard to the creation of solar easements is similar to that of Kentucky. However, Maryland folds solar easements into a broader concept — “conservation easements,” which can serve a variety of purposes not necessarily related to the collection of solar energy.⁶¹

Nevada

Nevada's statute⁶² includes the concepts found in the majority approach, but adds the requirement that the

easement must set forth “[t]he location, size and periods of operation of the equipment to be used in collecting the solar energy.”

New Mexico

New Mexico has taken a significantly more aggressive approach than the other states that have legislated solar easements. The general rule in other states is that a solar easement may not be obtained by proscription and can only be obtained through the voluntary written agreement of the owner of the encumbered property. In contrast, property owners in New Mexico can file a “solar right declaration.”⁶³ If the solar right declaration goes uncontested for 60 days and service of notice of the declaration on the affected property owners has been made in accordance with the statute, then an enforceable right is created.

Tennessee

The Tennessee General Assembly “declare[d] that solar easements may be established to allow the owner of a solar energy system to negotiate for assurance of continued access to sunlight.”⁶⁴ To create a solar easement, the instrument of conveyance must describe both the subject property and the property receiving the benefit, the angles at which the easement extends, the terms or conditions of the easement, the period of time for the easement, and any compensation for the grant.⁶⁵

Proscriptions on Zoning and Other Restrictions

Only four states have adopted legislation⁶⁶ expressly proscribing, to one degree or another, the adoption, by their respective governmental subdivisions, of zoning laws and other ordinances that could interfere with the installation of facilities intended to make use of solar energy.

California

Both California’s Health and Safety Code and Government Code provisions restricting local government authority’s ability to interfere with the

installation of solar systems were scaled back⁶⁷ in 2004.⁶⁸ Now, rather than prohibit local legislative bodies from enacting certain ordinances, California law provides a procedural mechanism to protect solar energy systems and establishes the circumstances under which a local legislative body may block such systems.⁶⁹

In this regard, the Health and Safety Code limits the circumstances under which a city or county may deny an application to install a solar energy system.⁷⁰ The city or county must approve such an application through the issuance of a building permit or similar nondiscretionary permit, unless it has a good faith belief that the solar energy system will have a “specific, adverse impact upon the public health and safety.”⁷¹ Second, if the city or county does have such a concern, its only recourse is to require the applicant to apply for a “use permit.”⁷² The city or county must then approve the use permit application unless it “makes written findings based upon substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact.”⁷³ Further, any condition imposed on a use permit must be designed to mitigate the health and safety impact at the lowest possible cost.⁷⁴ Finally, the city or county is required to use its best efforts to ensure that any alternative method selected to mitigate or avoid an adverse impact will neither significantly increase the cost nor decrease the efficiency of the system, as defined in sections 714(d)(1)(A) - (B) of the California Civil Code and described in the above paragraph.⁷⁵

The Government Code was revised to operate in a similar manner to the Health and Safety Code, and provides for the same permitting process as described in the preceding paragraph.⁷⁶ The only substantial difference between the two sections is that section 65850.5 of the Government Code contains a subsection with a statement of legislative intent.⁷⁷ The subsection notes that the implementation of consistent statewide standards to achieve the timely and cost-effective installation of solar energy systems is a matter of statewide concern and not a municipal affair.⁷⁸ It also states that it

is the intent of the Legislature that local agencies not adopt ordinances that create unreasonable barriers to the installation of solar energy systems, including, but not limited to, design review for aesthetic purposes, and not unreasonably restrict the ability of homeowners and agricultural and business concerns to install solar energy systems.⁷⁹

Finally, the subsection provides that it “is the intent of the Legislature that local agencies comply not only with the language of [section 65850.5 of the Government Code], but also the legislative intent to encourage the installation of solar energy systems by removing obstacles to, and minimizing costs of, permitting such systems.”⁸⁰

Florida

Since 1980 Florida law has prohibited local ordinances that have the effect of prohibiting the installation of “solar collectors, clotheslines, or other energy devices based on renewable resources”.⁸¹ Florida law is unique among those surveyed here in that it applies to all renewable energy devices, not just solar energy devices.

In *City of Ormond Beach v. Del Marco*,⁸² the Florida courts had an opportunity to review the law’s application to governmental entities. In that case, a homeowner, Charles Del Marco, applied to the Board of Adjustment of the City of Ormond Beach for a side yard and height variance to allow him to “erect a windmill on his oceanfront residential property for the purpose of generating electricity for his home.”⁸³ The Board of Adjustment found no hardship and denied his request for the variances.⁸⁴ Del Marco then sought de novo review from the circuit court.⁸⁵ The trial court found that the action taken by the Board of Adjustment was contrary to Florida law, granted the variances, and awarded attorney’s fees and costs to Del Marco.⁸⁶

On appeal the City argued that law “cannot operate against a board of adjustment because that board does not adopt ordinances.”⁸⁷ The statute forbids “the adoption of an ordinance by a governing body” that prohibits the installation of renewable energy devices.⁸⁸ The court dismissed the City’s argument as

“specious.”⁸⁹ Seizing on language in the statute that indicates that the legislature’s intent in enacting the law was to prevent the adoption of measures which would prohibit the use of renewable energy devices, the court concluded that the legislature intended to include the denial of a variance application within the scope of the statute, since such an action constitutes the “adoption of a measure.”⁹⁰ Thus, the court upheld the trial court’s finding that Section 163.04 applied to the Board of Adjustment.⁹¹

The court then considered whether the trial court correctly applied Section 163.04 together with Section 163.225 (which established the Board of Adjustment), defined their power, and provided the criterion for granting a variance.⁹² The court first noted that the statute grants the trial court *de novo* review, as opposed to certiorari.⁹³ The court thus inferred that the legislature intended for the trial court to act in place of the Board of Adjustment, as opposed to simply reviewing the Board’s decision.⁹⁴ That being so, the aggrieved party, Del Marco, was required to present evidence that he was entitled to a variance, which in this case involved showing a hardship.⁹⁵ The only evidence offered by Del Marco was that the particular location where he wished to place the device was necessary for “optimum” performance.⁹⁶ The court found that a hardship only exists where the homeowner is deprived of “satisfactory” performance.⁹⁷ In reaching this conclusion, the court referred to language in the now repealed section 163.225(3)(a)5 that provided that a variance could only be granted upon a showing that it was the minimum variance necessary for “reasonable use” of the non-compliant structure.⁹⁸ Since the case was litigated under the standard of “optimum” and not “satisfactory” performance, the court remanded the case to the trial court for further proceedings.⁹⁹

Indiana

The Indiana law that grants local governmental units the authority to plan for and regulate the use, improvement and maintenance of real property and the location, condition and maintenance of structures and other improvements, includes specific restrictions on such authorities ability to regulate solar energy systems.

Specifically, the law provides, in part:

(b) A [governmental] unit may not adopt any ordinance which has the effect of prohibiting or of unreasonably restricting the use of solar energy systems other than for the preservation or protection of the public health and safety.

(c) This section does not apply to ordinances which impose reasonable restrictions on solar energy systems. However, it is the policy of this state to promote and encourage the use of solar energy systems and to remove obstacles to their use. Reasonable restrictions on solar energy systems are those restrictions which:

- (1) do not significantly increase the cost of the system or significantly decrease its efficiency;
- or
- (2) allow for an alternative system of comparable cost and efficiency.¹⁰⁰

Wisconsin

Wisconsin law provides: “All restrictions on platted land that prevent or unduly restrict the construction and operation of solar energy systems, as defined in s. 13.48(2)(h)1.g., or a wind energy system, as defined in s. 66.0403(1)(m), are void.”¹⁰¹ Wisconsin law also provides:

No county, city, town, or village may place any restriction, either directly or in effect, on the installation or use of a solar energy system, as defined in s. 13.48(2)(h)1.g., or a wind energy system, as defined in s. 66.0403(1)(m), unless the restriction satisfies one of the following conditions:

- (a) Serves to preserve or protect the public health or safety.
- (b) Does not significantly increase the cost of the system or significantly decrease its efficiency.
- (c) Allows for an alternative system of comparable cost and efficiency.¹⁰²

These provisions are notable in that they cover wind, as well as solar, powered systems.

Limitations on the Ability of Home Owner Associations to Restrict Installation of Renewable Energy Systems

More states, albeit a modest number (six), have found it desirable to enact legislation¹⁰³ limiting the powers of HOAs to restrict the installation of renewable energy systems. In addition, the town of Chapel Hill, North Carolina has adopted an ordinance with the same effect.¹⁰⁴ Another four states have legislation expressly authorizing governmental subdivisions to restrict the power of HOAs in this respect.

Arizona

Since 1979 Arizona state law has voided any covenant, deed or restriction that “effectively prohibits the installation or use of a solar energy device.”¹⁰⁵ A solar energy device is defined as “a system or series of mechanisms designed primarily” to provide heating, cooling or solar daylighting, to produce electrical or mechanical power, or “any combination of the foregoing by means of collecting and transferring solar generated energy into such uses either by active or passive means.”¹⁰⁶ Passive systems must be clearly designed as solar energy devices (*e.g.* a “trombe” wall¹⁰⁷ qualifies as a solar energy device but a window does not).¹⁰⁸

The statute was the subject of a recent lawsuit.¹⁰⁹ The HOA for the Garden Lakes subdivision of Avondale, Arizona, sought to enforce guidelines established by its architectural review committee (ARC).¹¹⁰ The guidelines required that any solar energy devices visible from neighboring property or public view be approved by the ARC.¹¹¹ The guidelines also required that solar panels be an integrated part of the roof, screened from neighboring property and not visible from public view.¹¹² The two defendant homeowners, the Madigans and the Speaks, both installed solar energy devices on their homes without ARC approval.¹¹³ The Community Association filed suit to obtain an injunction ordering the removal of the devices.¹¹⁴ The district court held that the guidelines were voided by the Arizona statute.¹¹⁵

On appeal the Community Association argued that the phrase “effectively prohibit” should be construed so as to void only those covenants, deeds and restrictions that “inevitably preclude” the installation of solar energy devices.¹¹⁶ The appellate court disagreed and upheld the district court’s decision.¹¹⁷ Rather than establish a bright-line rule as to which restrictions would be enforceable, the appellate court listed a number of factors that should be considered when applying section 33-439.¹¹⁸ The factors included:

the content and language of the restrictions or guidelines; the conduct of the homeowners association in interpreting and applying the restrictions; whether the architectural requirements are too restrictive to allow SEDs [solar energy devices] as a practical matter; whether feasible alternatives utilizing solar energy are available; whether any alternative design will be comparable in cost and performance; the feasibility of making the required modifications; the extent to which the property at issue is amenable to the required changes; whether decisions previously made by the homeowner or a prior owner are responsible for limiting or precluding the installation of SEDs rather than the restrictions themselves; the location, type of housing, and value of the homes in the community; and whether the restrictions impose too great a cost in relation to what typical homeowners in the community are willing to spend.¹¹⁹

The issue of cost was particularly important in this case. The Community Association suggested two measures that would bring the solar devices on the Speaks’ home into compliance with the guidelines.¹²⁰ One measure, which involved installing moveable screens to disguise the solar panels, was dismissed as infeasible.¹²¹ The other measure required the Speaks to construct a patio in their backyard upon which to mount the solar panels.¹²² The cost of building the patio was estimated at \$5,000.¹²³ The court found persuasive testimony reporting that most homeowners were unwilling to wait more than three to five years to recoup the expense of installing a solar energy device through decreased gas and electric bills.¹²⁴ In the Phoenix and Tucson markets, homeowners generally could not recover more than \$4,500 in energy savings

within five years.¹²⁵ However, the court also noted that the cost factor alone should not be dispositive, at least not in terms of absolute dollar value.¹²⁶ Rather, the court suggested that the case might have come out differently if the Speaks’ home were worth more, indicating that the cost of complying with the restrictions should be measured against the value of the home.¹²⁷

Though the court’s decision in *Madigan* does not offer much specific guidance on how to interpret section 33-439, the case should not be dismissed as insignificant. The court could have diluted the force of the statute by agreeing with the Community Association that the law prohibits only those restrictions that “inevitably preclude” the use of solar energy devices. It chose not to do so. The factors listed as relevant to the application of the statute are myriad. While this may confuse some lower courts, it at least indicates that the law deserves serious attention.

California

Section 714 of the California Civil Code prohibits HOAs from promulgating rules that create unreasonable restrictions on the installation of “solar energy systems.”¹²⁸ A “solar energy system” is defined as

- (1) [a]ny solar collector or other solar energy device whose primary purpose is to provide for the collection, storage, and distribution of solar energy for space heating, space cooling, electric generation, or water heating[; or]
- (2) [a]ny structural design feature of a building, whose primary purpose is to provide for the collection, storage, and distribution of solar energy for electricity generation, space heating or cooling, or for water heating.¹²⁹

A restriction is reasonable if it does not “significantly increase the cost of the system or significantly decrease its efficiency or specified performance.”¹³⁰ A restriction is also reasonable if it allows “for an alternative system of comparable cost, efficiency, and energy conservation benefits.”¹³¹ For photovoltaic systems, a cost increase of more than \$2,000 is a significant increase.¹³² A greater than 20 percent decrease in

system efficiency is a significant decrease.¹³³ For domestic solar water and pool heating systems, both a significant decrease in efficiency and a significant increase in cost are set at 20 percent.¹³⁴

Colorado

Since 1979 Colorado state law has voided any covenant, restriction or condition that effectively prohibits or restricts the installation or use of a solar energy device solely on the basis of aesthetic considerations.¹³⁵ “[A]esthetic provisions which impose reasonable restrictions on solar energy devices and which do not significantly increase the cost of the device” are excepted.¹³⁶ Unlike the California law, “reasonable restriction” and “significant increase” are not defined in the code. Also, restrictions that cause a decrease in the efficiency of solar devices are not specifically contemplated by the statute. “Solar energy device” is defined as

“a solar collector or other device or a structural design feature of a structure which provides for the collection of sunlight and which comprises part of a system for the conversion of the sun’s radiant energy into thermal, chemical, mechanical, or electrical energy.”¹³⁷

There is one reported case involving the statute.¹³⁸ Homeowner Walter Gunther installed an evaporative cooler on his roof in violation of a restrictive covenant.¹³⁹ The HOA filed suit to obtain an injunction ordering its removal.¹⁴⁰ The trial court issued the injunction, Gunther refused to comply, and a contempt citation was issued.¹⁴¹ At the show cause hearing, Gunther introduced evidence that he had installed solar panels on his roof after the issuance of the injunction.¹⁴² The solar panels heated water which in turn was used to power the evaporative cooler in the summer and to heat the house in the winter.¹⁴³ Finding that the solar panels themselves did not violate the Association’s covenants and that the evaporative cooler together with the solar panels constituted an “integrated” solar energy device, the court dismissed the citation and modified the injunction to prohibit the cooler “only if the solar panels became inoperative or were removed.”¹⁴⁴ The court of appeals affirmed, noting that a mere physical connection would be insufficient to

bring a device such as the cooler into compliance with the covenants, but that when “integrated” with the solar energy device the total unit was protected.¹⁴⁵

Florida

Florida law was amended in 1993 to prohibit HOAs from placing restrictions, conditions and covenants on renewable energy devices.¹⁴⁶ Neither “solar collectors,” “clotheslines” nor “energy devices based on renewable resources” are defined in the code. A HOA may direct the placement of a solar collector on a roof “within an orientation to the south or within 45 degrees east or west of due south provided that such determination does not impair the effective operation of the solar collectors.”¹⁴⁷ The law does not apply to patio railings in condominiums, cooperatives, or apartments.¹⁴⁸ The prevailing party in any litigation arising under the law is entitled to costs and reasonable attorney’s fees.¹⁴⁹ As previously mentioned, Florida law is unique among those surveyed here in that it applies to all renewable energy devices, not just solar energy devices.

*Sorrentino v. River Run Condominium Ass’n*¹⁵⁰ involves the subsection of the law that mandates awarding attorney’s fees to the prevailing party. Homeowners Jerome and Rita Sorrentino sought permission from the River Run Condominium Association to install two tubular skylights in their home.¹⁵¹ The Association requested that a representative of the company performing the installation appear before the Association.¹⁵² The company responded that it did not have a representative available when the relevant Association board had its meetings.¹⁵³ The Association then denied the Sorrentinos’ request.¹⁵⁴

The Sorrentinos installed the two skylights even though their application had been denied.¹⁵⁵ The Association sent them a letter requesting removal of the skylights.¹⁵⁶ The Sorrentinos responded by claiming, for the first time, that the skylights were “solar collectors” within the meaning of Florida Statute § 163.04, and were therefore protected by the statute.¹⁵⁷ The Association filed suit, seeking a mandatory injunction to have the skylights removed.¹⁵⁸ The court found for the

Sorrentinos, but also faulted them for not first obtaining written permission from the Association.¹⁵⁹ The court also found that the Association's initial denial of permission to install the skylights was reasonable.¹⁶⁰ It therefore concluded that neither the Sorrentinos nor the Association were the prevailing party, and thus neither were entitled to attorney's fees.¹⁶¹

The Sorrentinos appealed the trial court's decision not to award them attorney's fees.¹⁶² The court noted that the Association only filed suit after it had been put on notice that the skylights were protected under § 163.04.¹⁶³ The court also noted that the Association stipulated to the facts that the skylights were covered under section 163.04 and had been properly installed.¹⁶⁴ Thus, the Association's continued denial of permission to install the skylights and the institution of the lawsuit could not have been reasonable, even though the Sorrentinos should not have installed the skylights without the Association's permission.¹⁶⁵ The court found that the Sorrentinos prevailed on all issues before the trial court, and thus the award of attorney's fees was mandated, irrespective of whether the Sorrentinos were in some way at fault by creating the situation that led to the lawsuit.¹⁶⁶

The Florida statute is similar to the Arizona law in that it works in terms of prohibitions and does not contemplate reasonable and unreasonable restrictions, as the California and Colorado statutes do. The *Sorrentino* case is noteworthy in that a passive system (skylights) was protected even though the statute does not specifically refer to passive arrangements. On the other hand, the statute disallows prohibitions of clotheslines, which is arguably a more primitive means of using solar energy than any other system that appears in the statutes and cases surveyed here. As described in the above section on California, *Ormond Beach* stands in stark contrast to the *Larsen* cases. The court in *Ormond Beach* refused to exempt an administrative body from the scope of the Florida law, even though the law only specifically prohibits *ordinances* that have the effect of prohibiting the use of renewable energy devices. The court also found that the Florida law did not void the zoning ordinance, but instead was to be applied in conjunction with the ordinance. The Florida law is also unique both in that

it applies to non-solar renewable energy devices, such as the windmill in *Ormond Beach*, and also in that it initially applied only to ordinances, rather than regulations promulgated by HOAs.

Hawaii

Hawaii's law addresses the ability of private entities, such as HOAs or cooperatives, to place restrictions on the placement of solar energy devices. However, rather than flatly prohibit such restrictions, a reasonableness standard is created:

“Every private entity shall adopt rules by December 31, 2006, that provide for the placement of solar energy devices. The rules shall *facilitate* the placement of solar energy devices and shall not unduly or unreasonably restrict that placement so as to render the device more than twenty-five per cent less efficient or to increase the cost of the device by more than fifteen per cent. No private entity shall assess or charge any homeowner any fees for the placement of any solar energy device.”¹⁶⁷

The end of the Hawaii statute discusses the unequivocal right to have a solar access panel on one's own or common property as long as certain criteria is met, such as compliance with statutory rules and regulations, registration and consent of the co-owner of the common property.¹⁶⁸

Iowa

Iowa law merely empowers local governmental entities to proscribe new subdivisions from being subject to unreasonable restrictions on solar devices:

City councils and county boards of supervisors may include in ordinances relating to subdivisions a provision prohibiting deeds for property located in new subdivisions from containing restrictive covenants that include unreasonable restrictions on the use of solar collectors.¹⁶⁹

Massachusetts

Massachusetts law states, “[a]ny provision in an instrument relative to the ownership or use of real

property which purports to forbid or unreasonably restrict the installation or use of a solar energy system ... or the building of structures that facilitate the collection of solar energy shall be void.”¹⁷⁰

Nevada

Nevada statutory law flatly prohibits the existence or creation of deed covenants proscribing or restricting the use of solar energy systems:

“Any covenant, restriction or condition contained in a deed, contract or other legal instrument which affects the transfer, sale or any other interest in real property that prohibits or unreasonably restricts the owner of the property from using a system for obtaining solar energy on his property is void and unenforceable.”¹⁷¹

North Carolina

The State of North Carolina has not taken any direct legislative action on this issue. However, this has not stopped at least one locality from taking matters into its own hands.

Town of Chapel Hill

The town of Chapel Hill, North Carolina enacted an ordinance taking the flat prohibition approach:

“Where neighborhood or homeowners’ associations, or similar legal entities, will maintain and control any improvements (streets, alleys, bikeways, pedestrian and bicycle ways, utilities, storm drainage facilities, street signs, and recreation areas and facilities for common use) approved as part of subdivision approval, they shall be established so that: ... (d) [s]ubdivisions shall not include covenants or other conditions of sale that restrict or prohibit the use, installation or maintenance of solar collection devices.”¹⁷²

Oregon

Oregon is yet another jurisdiction that flatly proscribes prohibitions. However, on the face of the law, it is uncertain whether reasonable restrictions might be allowed. Under Oregon law, “[n]o person conveying

or contracting to convey fee title to real property shall include in an instrument for such purpose a provision prohibiting the use of solar energy systems by any person on that property.”¹⁷³

Utah

Utah law does not expressly prohibit the existence of deed restrictions and covenants that proscribe or restrict the use or installation of renewable energy but rather it gives land use authorities the ability to refuse the approval or renewal of a development plan if there exists such a deed restriction or covenant:

“The land use authority may refuse to approve or renew any plat, subdivision plan, or dedication of any street or other ground, if deed restrictions, covenants, or similar binding agreements running with the land for the lots or parcels covered by the plat or subdivision prohibit or have the effect of prohibiting reasonably sited and designed solar collectors, clotheslines, or other energy devices based on renewable resources from being installed on buildings erected on lots or parcels covered by the plat or subdivision.”¹⁷⁴

Wisconsin

Wisconsin law on this point covers both solar and wind energy systems. Using a formulation somewhat similar to Nevada, the law states in part:

“All restrictions on platted land that prevent or unduly restrict the construction and operation of solar energy systems ... or a wind energy system ... are void.”¹⁷⁵

Conclusion

There remains a great deal more that can and should be done to encourage distributed generation. Fair-minded people can argue over which of the competing interests affected in creating an inherent right to solar access should prevail, and there is no obvious single answer as to exactly how far down decisions controlling the development of on-site generation should be delegated. However, it is important for policy makers to recognize that, absent state-level action, opportunities to encourage such generation without any taxpayer expense will be lost.

Further, where states choose to (1) create affirmative, inherent, rights to solar access, (2) empower their political subdivisions to do so or (3) proscribe local ordinances or HOA rules that interfere with the installation of on-site generation, legislators should make clear whether such choices extend to passive, as well as, active solar energy devices. As the state of the art of integrating solar features into homes advances, it may become increasingly difficult to determine when a patio is just a patio. Well written laws will be needed to ensure that competing interests are balanced in the manner intended by our elected officials.

Finally, a growing (and encouraging) number of states have recognized the wisdom in providing for solar easements. Such easements allows homeowners to invest in solar power, at their own cost, in a manner that assures them that the opportunity to recoup their investments will not be lost due to shading of their solar collectors. We can think of no reason, other than inertia or inattention, for failing to embrace such a policy.

Notes

¹ Whitney Cox, David Currie and Heleina Formoso were the primary researchers for this article, which borrows freely from memoranda that they prepared to support this effort. However, this writing was compiled after they completed their summer internships with King & Spalding and, thus, they did not have the opportunity to edit this work. Amanda Landry assisted with final editing and confirmed that this material remained up to date as of November 2006.

² Other states and subdivisions have followed a similar path, where the state expressly grants local governmental authorities the power to pass solar access ordinances. For example, Wisconsin has such a law (WIS. STAT. § 66.0401(2)) and City of Madison has acted on such grant of authority (MADISON, WIS., CODE § 16.23(8)(d) and (g)). However, it is beyond the scope of this article to identify all such situations. Wisconsin also allows governmental subdivisions to provide for solar and wind access permits (WIS. STAT. § 66.0403). Such a permit can be granted without the requirement that the neighboring property owner consent to its issuance, but otherwise has an effect similar to solar easements, which are discussed below.

³ Local authorities may have authority under more general grants of power to implement such ordinances. It is beyond the scope of this article to consider which states have granted such authority.

⁴CAL. PUB. RES. CODE

§ 25980 (West 2005).

⁵CAL. PUB. RES. CODE § 25982 (West 2005).

⁶CAL. PUB. RES. CODE § 25981 (West 2005).

⁷CAL. PUB. RES. CODE § 25985 (West 2005).

⁸*Sher v. Leiderman*, 226 Cal. Rptr. 698 (Cal. Ct. App. 1986) and *Zipperer v. County of Santa Clara*, 35 Cal. Rptr. 3d 487 (Cal. Ct. App. 2005).

⁹226 Cal. Rptr. at 699.

¹⁰*Id.* at 700.

¹¹*Id.*

¹²*Id.*

¹³*Id.* at 701.

¹⁴226 Cal. Rptr. at 705.

¹⁵*Id.*

¹⁶*Id.* at 705-06.

¹⁷*Id.* at 706.

¹⁸*Id.*

¹⁹*Id.*

²⁰*Id.*

²¹*Id.*

²²*Id.*

²³*Id.*

²⁴CAL. CIV. CODE § 801.5 (West 2006).

²⁵*Id.*

²⁶35 Cal. Rptr. 3d 487.

²⁷*Id.* at 490.

²⁸*Id.*

²⁹*Id.*

³⁰35 Cal. Rptr. 3d at 490.

³¹*Id.* at 492 n.4.

³²*Id.* at 490.

³³*Id.* at 493.

³⁴*Id.* at 494.

³⁵*Id.*

³⁶*Id.*

³⁷*Id.* at 494-95.

³⁸*Id.* at 495.

³⁹SANTA CRUZ COUNTY, CAL., CODE § 12.28.040.

⁴⁰*Id.*

⁴¹SANTA CRUZ COUNTY, CAL., CODE § 12.28.030.

⁴²*Id.*

⁴³BOULDER, COLO., REV. CODE ch. 9-9-17 (2006); *see also* brochure at <http://www.ci.boulder.co.us/files/PDS/codes/solrshad.pdf> (last visited November 28, 2006).

⁴⁴*Id.*

⁴⁵*Id.*

⁴⁶*Id.*

⁴⁷*Id.*

⁴⁸CITY OF ASHLAND, OR., CODE § 18.70.010.

⁴⁹CITY OF ASHLAND, OR., CODE § 18.70.070.

⁵⁰CITY OF EUGENE, OR., CODE § 9.2780.

⁵¹*See* ALASKA STAT. § 34.15.145(a) (2006); IDAHO CODE ANN.

§ 55-615 (2006); IND. CODE § 32-23-4-4 (2006); IOWA CODE

§ 564A.7 (2003); KAN. STAT. ANN. § 58-3801 (2006); KY. REV.

STAT. ANN. § 381.200 (West 2006); MD. CODE ANN., REAL PROP.

§ 2-118 (West 2004); MASS. GEN. LAWS ch. 187, § 1A (2005);

MINN. STAT. § 500.30 (2002); MO. REV. STAT. § 442.012 (2005);

MONT. CODE ANN. § 70-17-301 (2005); NEB. REV. STAT. § 66-911 (2005); NEV. REV. STAT. § 111.370(1) (2006); N.J. STAT. ANN. § 46:3-25 (West 2005); N.M. STAT. § 47-3-6 (2006); N.D. CENT. CODE § 47-05-01.1 (2002); R.I. GEN. LAWS § 34-40-2 (2005); TENN. CODE ANN. § 66-9-204 (2005); UTAH CODE ANN. § 57-13-2 (2006); and VA. CODE ANN. § 55-35. (2006).

⁵² Minnesota law also provides for the creation of a wind easement. See MINN. STAT. § 500.30.

⁵³ Montana law also provides for the creation of a wind easement. See MONT. CODE ANN. § 70-17-303 (2005).

⁵⁴ Nebraska law also provides for the creation of a wind easement. See NEB. REV. STAT. § 66-911.

⁵⁵ N.J. STAT. ANN. § 46:3-25.

⁵⁶ N.J. STAT. ANN. § 46:3-24 (West 2005).

⁵⁷ IOWA CODE § 564A.3 (2003).

⁵⁸ IOWA CODE § 564A.3-7 (2003).

⁵⁹ KY. REV. STAT. ANN. § 381.200 (West 2006).

⁶⁰ MD. CODE ANN., REAL PROP. § 2-118.

⁶¹ MD. CODE ANN., REAL PROP. § 2-118.

⁶² NEV. REV. STAT. § 111.370 (2006).

⁶³ N.M. STAT. § 47-3-9 (2006).

⁶⁴ TENN. CODE ANN. § 66-9-202 (2005).

⁶⁵ TENN. CODE ANN. § 66-9-204 (2005).

⁶⁶ CAL. HEALTH & SAFETY CODE § 17959.1 (West 2005); CAL. GOV'T CODE § 65850.5 (West 2005); FLA. STAT. §§ 163.04 (2003); IND. CODE § 36-7-2-8 (2004); and WIS. STAT. §§ 66.0401 and 236.292 (2005).

⁶⁷ Previously, Section 17959.1 of the Health and Safety Code limited the ability of local legislative bodies to enact ordinances that had the effect of prohibiting or unreasonably restricting the use of solar energy systems. Similarly, Section 65850.5 of the California Government Code prohibited any county or city legislative body from enacting an ordinance that had the effect of prohibiting or imposing unreasonable restrictions on the use of solar energy systems. *Larsen v. Town of Carte Madera*, 1996 WL 147627, at *2 (N.D. Cal. March 25, 1996). Only for the preservation and protection of the public health or safety could such ordinances be enacted. *Id.*

⁶⁸ 2004 Cal. Stats. c. 789, §§ 4 and 6.

⁶⁹ CAL. HEALTH & SAFETY CODE § 17959.1.

⁷⁰ CAL. HEALTH & SAFETY CODE § 17959.1(a).

⁷¹ *Id.*

⁷² *Id.*

⁷³ CAL. HEALTH & SAFETY CODE § 17959.1(b).

⁷⁴ CAL. HEALTH & SAFETY CODE § 17959.1(c).

⁷⁵ CAL. HEALTH & SAFETY CODE § 17959.1(e)(1).

⁷⁶ CAL. GOV'T CODE § 65850.5.

⁷⁷ CAL. GOV'T CODE § 65850.5(a).

⁷⁸ CAL. GOV'T CODE § 65850.5(a).

⁷⁹ *Id.*

⁸⁰ *Id.*

⁸¹ FLA. STAT. § 163.04(1) - (2).

⁸² 426 So. 2d 1029 (Fla. Dist. Ct. App. 1983).

⁸³ 426 So. 2d at 1030.

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ 426 So. 2d at 1030-31.

⁸⁷ *Id.* at 1031.

⁸⁸ FLA. STAT. § 163.04(1).

⁸⁹ *Ormond Beach*, 426 So. 2d at 1031.

⁹⁰ *Ormond Beach*, 426 So. 2d at 1031.

⁹¹ *Id.* at 1031-32.

⁹² *Id.* (Section 163.225 has since been repealed; see 1985 Fla. Laws c. 85-55, § 19).

⁹³ *Id.* at 1032.

⁹⁴ *Id.*

⁹⁵ *Id.*

⁹⁶ *Id.*

⁹⁷ *Id.*

⁹⁸ *Id.* at 1032 n.6.

⁹⁹ *Id.* at 1032.

¹⁰⁰ IND. CODE § 36-7-2-8.

¹⁰¹ WIS. STAT. § 236.292(2).

¹⁰² WIS. STAT. § 66.0401(1).

¹⁰³ ARIZ. REV. STAT. ANN. § 33-439 (2000); CAL. CIV. CODE §§ 714 - 714.1 (2005); COLO. REV. STAT. § 38-30-168(1) (2005); HAW. REV. STAT. § 196-7 (2006); IOWA CODE § 564A.8 (2003); MASS. GEN. LAWS ch. 184, § 23C (2005); NEV. REV. STAT. § 111.239 (2006); OR. REV. STAT. § 105.880(1) (2006); UTAH CODE ANN. § 10-9a-610 (2006); and WIS. STAT. § 236.292(2).

¹⁰⁴ CHAPEL HILL, N.C., LAND USE MGMT. ORDINANCE art. 4.6.7(d) (2004). As is the case with the other aspects of this section, the authors have called attention to selective instances of local action as examples, but have not endeavored to conduct an exhaustive review to identify instances of such local action.

¹⁰⁵ ARIZ. REV. STAT. ANN. § 33-439 (2000).

¹⁰⁶ ARIZ. REV. STAT. ANN. § 44-1761 (2000).

¹⁰⁷ A trombe wall system is comprised of a glazed surface on the exterior of a space that allows light to strike a heavy masonry or stone wall separated with a small air gap. Light passing through the glazed surface is converted to heat upon being absorbed by the wall. Air within the air gap, in turn is heated, rises and passes into an adjacent structure through ports at the top of the wall, causing cool air to be drawn into the air gap through ports at the base of the wall. The heavy wall stores heat allowing the process to continue to provide heating for a period of time after sunlight ceases to be available.

¹⁰⁸ ARIZ. REV. STAT. ANN. § 44-1761.

¹⁰⁹ *Garden Lakes Cmty. Ass'n v. Madigan*, 62 P.3d 983 (Ariz. Ct. App. 2003).

¹¹⁰ 62 P.3d at 984.

¹¹¹ *Id.*

¹¹² *Id.*

¹¹³ *Id.* at 984-85.

¹¹⁴ *Id.* at 985.

¹¹⁵ *Id.*

¹¹⁶ *Id.* at 986.

¹¹⁷ 62 P.3d at 988.

¹¹⁸*Id.* at 987.
¹¹⁹*Id.*
¹²⁰*Id.* at 987-988.
¹²¹*Id.* at 988.
¹²²*Id.* at 987.
¹²³*Id.* at 988.
¹²⁴*Id.*
¹²⁵*Id.*
¹²⁶*Id.* at 988 n. 5.
¹²⁷*Id.*
¹²⁸CAL. CIV. CODE § 714.
¹²⁹CAL. CIV. CODE § 801.5.
¹³⁰CAL. CIV. CODE § 714.
¹³¹*Id.*
¹³²CAL. CIV. CODE § 714(d)(1)(B).
¹³³*Id.*
¹³⁴CAL. CIV. CODE § 714(d)(1)(A).
¹³⁵COLO. REV. STAT. § 38-30-168(1) (2005).
¹³⁶COLO. REV. STAT. § 38-30-168(2).
¹³⁷COLO. REV. STAT. § 38-32.5-100.3(2) (2005).
¹³⁸*Governor's Ranch Homeowner's Ass'n v. Gunther*, 705 P.2d 1011 (Colo. Ct. App. 1985).
¹³⁹705 P.2d at 1012.
¹⁴⁰*Id.*
¹⁴¹*Id.*
¹⁴²*Id.*
¹⁴³*Id.*
¹⁴⁴*Id.*
¹⁴⁵*Id.*
¹⁴⁶FLA. STAT. § 163.04(2).
¹⁴⁷*Id.*
¹⁴⁸FLA. STAT. § 163.04(4).
¹⁴⁹FLA. STAT. § 163.04(3).
¹⁵⁰925 So. 2d 1060 (Fla. Dist. Ct. App. 2006).
¹⁵¹*Id.* at 1062.
¹⁵²*Id.*
¹⁵³*Id.*
¹⁵⁴*Id.*
¹⁵⁵*Id.*
¹⁵⁶*Id.*
¹⁵⁷*Id.* at 1063.
¹⁵⁸*Id.*
¹⁵⁹*Id.* at 1064.
¹⁶⁰*Id.*
¹⁶¹*Id.*
¹⁶²*Id.* at 1061.
¹⁶³*Id.* at 1065.
¹⁶⁴*Id.*
¹⁶⁵*Id.*
¹⁶⁶925 So. 2d at 1066.
¹⁶⁷HAW. REV. STAT. § 196-7 (emphasis added).
¹⁶⁸*Id.*
¹⁶⁹IOWA CODE § 564A.8 (2003).
¹⁷⁰MASS. GEN. LAWS ch. 184, § 23C.
¹⁷¹NEV. REV. STAT. § 111.239 (2006).
¹⁷²CHAPEL HILL, N.C., LAND USE MGMT. ORDINANCE art. 4.6.7(d).

¹⁷³OR. REV. STAT. § 105.880(1) (2006).

¹⁷⁴UTAH CODE ANN. § 10-9a-610 (2006).

¹⁷⁵WIS. STAT. § 236.292(2) (2006).

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