Renew300
SOLAR SITE SELECTION GUIDE

BACKGROUND

This Guide was developed by ICF under a technical assistance cooperative agreement from the U.S. Department of Housing and Urban Development (HUD) Renew300 Initiative.

The Initiative's 300 MW target aims to make use of millions of federally subsidized roofs with on-site or community generation potential to spur local economic growth and provide electricity cost savings. Supported renewable energy technologies include solar photovoltaic (PV) and solar thermal, wind, geothermal, small biomass, combined heat and power, and small hydro projects.

This Guide is one of a series of technical resources provided to assist organizations with increasing organizational capacity and installing renewable energy on federally assisted housing. The other resources in this series are available on **the HUD Exchange**.

PURPOSE OF THE GUIDE

The Solar Site Selection Guide is intended as a tool to assist affordable housing organizations in:

1. Identifying the buildings in their portfolios that are best suited for installation of PV generating systems;
2. Understanding at a rough, order-of-magnitude level what to expect in terms of generation and financial performance from PV systems operating on such sites; and
3. Saving time by quickly identifying buildings that are clearly unsuitable for solar development.

The primary audience for this Guide is multifamily affordable housing organization staff and outside stakeholders involved in reviewing potential solar projects. This may include executives, energy and sustainability staff, financial and procurement officials, and operational personnel such as property managers and engineers. For affordable housing staff with prior experience evaluating solar projects and available time, this Guide can likely be utilized without external assistance. For others, support from a solar vendor or other outside expert may be worthwhile.

ORGANIZATION AND USE OF THE GUIDE

The Site Selection Guide is organized around these four steps:

SITE SELECTION GUIDANCE STEPS

1 **Identify** your portfolio of **potential sites** for solar.

2 **Screen for technical factors** about the physical suitability and performance of solar and eliminate low-potential sites.

3 **Screen for economic factors** that affect investment returns and again eliminate any low-potential sites.

4 **Consider** your remaining list of **prioritized sites** for solar development.

The Guide provides a "Scorecard" that users can complete to analyze and prioritize properties for solar development. The Site Selection Scorecard (on the next page) includes 12 key technical and economic screening factors that should be analyzed for any potential solar site. To assist readers in screening for the factors described in this Guide, a four-point scale is presented for each factor. Sites with attributes on the left side of the scale ("significantly hindered") receive the worst score on the attribute while those on the far right ("positive") score best. Each of the 12 factors and their scoring rationale is described on the following pages.

This Guide is intended as a simple, easy-to-use tool for assessing sites utilizing your existing resources and personnel. We encourage its users not to invest too much time deciding exactly where a site might score on an attribute if there is some uncertainty, but to **instead make their best quick determination based on readily-available information and the judgment of their staff and other stakeholders**. For some of the 12 factors, multiple ways (including simplified options) to score the factor are presented in the Guide.

After identifying potentially viable sites using the Scorecard, a more detailed evaluation and consultation with a solar professional should be conducted. The Scorecard will provide the organization with some insight into what to expect from the detailed evaluation and guidance on whether to spend the time and resources to conduct a more detailed evaluation.

SITE SELECTION SCORECARD

Name and address of building being scored.

The scorecard below can consolidate your scores on the 12 screening factors for any potential multifamily housing solar site. Each of the 12 factors and its scoring rationale is described on the following pages of this Guide. The scoring of each individual factor is the same: Significantly Hindered = -2; Hindered = -1; Neutral = 0; Positive = +1 Please use multiple versions of this sheet, or the associated Excel spreadsheet to compare multiple sites.

TECHNICAL FACTORS

	Result				
	SIGNIFICANTLY HINDERED	HINDERED	NEUTRAL	POSITIVE	Score
Available area for PV					
Roof age					
Shading					
System orientation					
Available solar resource					
Site development plans					
Property risk					

ECONOMIC FACTORS

	Result				
	SIGNIFICANTLY HINDERED	HINDERED	NEUTRAL	POSITIVE	Score
Number and type of utility electric meters					
Net metering rules					
Utility interconnection rules					
Utility rate structure and level					
Incentive value					
					Cumulative Score

A general rule of thumb is that sites with cumulative scores below -5 have low potential to be viable to build and operate solar. Conversely, sites with cumulative scores greater than 5 have high potential to be viable. Sites with intermediate scores (-5 to 5) have a moderate potential to be viable.

Step 1: Identification of Potential Sites

The first step in the process of solar development is to identify buildings within the organization's portfolio to analyze and prioritize based on the screening factors in the Scorecard. This simply entails developing a list of all facilities owned or managed by the organization that it wishes to consider for solar development. This would also be a good time to contact all relevant stakeholders at the organizational or facility-specific level, with whom you will need to work with to gather data and apply the screening factors below. Engaging these stakeholders early in the process may provide useful insight that will keep you on track and help make the selection process more efficient.

Before proceeding to the technical and economic screening, users should consider the "deal breakers" presented in Exhibit 1. The "deal breakers" list provides users of the Guide with a quick way to eliminate a site completely if any of the solar constraints described are present. This will reduce the burden of further data collection and analysis of sites that will not be appropriate for solar development. Remaining sites that do not have "deal breakers" should move on to Steps 2 and 3 for technical and economic factor screening.

Exhibit 1: DEAL-BREAKERS

Most buildings can accommodate PV arrays, but there are a couple of building characteristics that generally prevent facilities from being good candidates for PV. This is especially so if there are sites that are better candidates within your property portfolio.

EXCESSIVE ROOFTOP EQUIPMENT.

HVAC equipment, elevator equipment rooms, exhaust stacks, television dishes or antennae are found on most multifamily dwelling rooftops. Not only does this equipment occupy roof area, but it can also cause shading on solar arrays, significantly degrading system performance. If such equipment occupies more than 33 percent of the roof area, the site is probably not a good candidate for solar production. The effects of rooftop equipment on the area available for PV systems and on shading are discussed in more detail on pages 5-7 of this Guide.

SHADING FROM TREES OR NEARBY STRUCTURES.

The output of a PV system is very sensitive to the amount of time the panels are subject to even partial shading. If objects to the east, south or west are likely to cast shadows on half or more of the area available for PV panels for much of the day, the site may not be a good candidate for solar. System developers have tools that assess year-round shading effects on system output, and design options that minimize the impact of shading, so they are in the best position to determine whether shading is a serious concern, but especially if a large structure or tree to the south keeps a rooftop in shade most of the day, building owners should consider alternative sites for solar installation. Sites with shading greater than 30% throughout the day should be considered unviable because the owner would be paying for a solar installation that could not consistently produce power. The effects of shading on PV system performance are described in more detail on pages 6-7 of this Guide.

Step 2: Technical Screening Factors

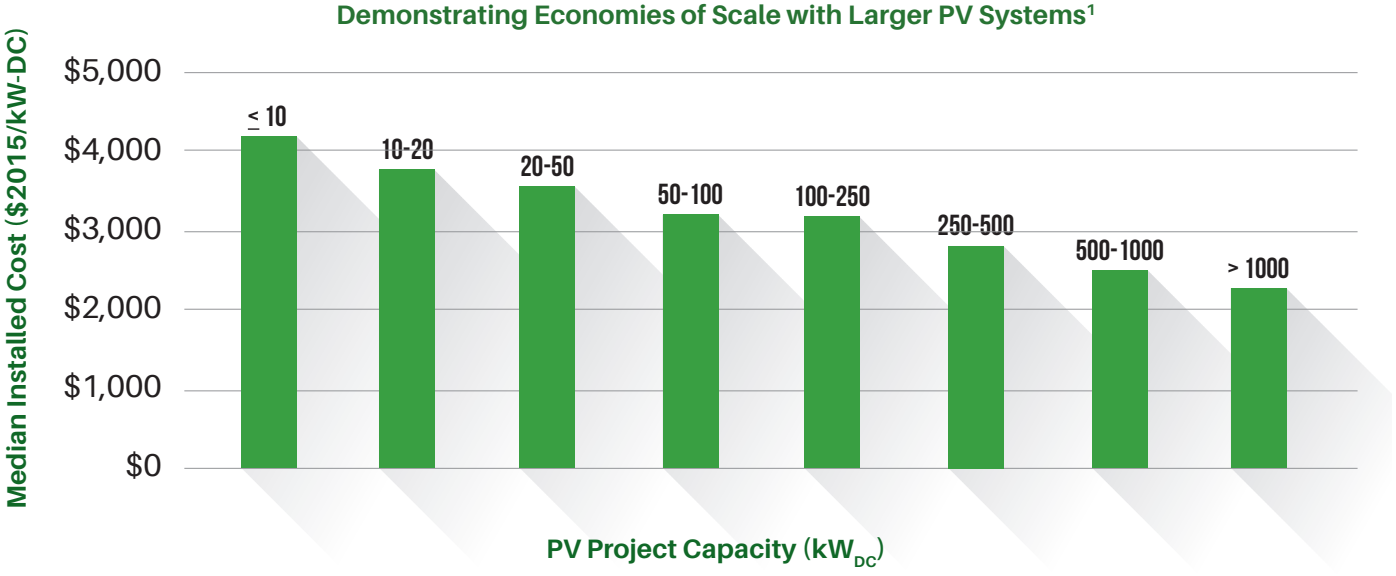
This Guide includes seven technical screening factors that should be analyzed: area available for PV; roof age; shading; roof orientation; available solar resource; site development plans; and property risk. Each is described in detail below.

Factor 1: AVAILABLE AREA FOR PV

Significantly Hindered -2 Points	Hindered -1 Points	Neutral 0 Points	Positive 1 Points
<10,000 sq. ft.	10,000-20,000 sq. ft.	20,000-50,000 sq. ft.	>50,000 sq. ft.

PV systems become more viable as they get larger due to economies of scale. The chart below displays declining per-unit installed costs as solar capacity increases.

Exhibit 2: Installed Cost per kilowatt (kW) for Non-Residential PV: Demonstrating Economies of Scale with Larger PV Systems[1]



[1]Adapted from summary table data for Figure 17 accompanying Lawrence Berkeley National Laboratory, *Tracking the Sun IX: The Installed Price of Residential and Non-Residential Photovoltaic Systems in the United States, 2016,* page 28, **Tracking the Sun IX: The Installed Price of Residential and Non-Residential Photovoltaic Systems in the United States** [accessed March 2017]. These costs are calculated before federal and other solar incentives.

As a rule of thumb, you will need about 100-200 sq-ft of space for every kW of PV capacity. A 500kW PV system would need approximately 50,000 -100,000 sq-ft of space. Smaller projects, even much smaller, can definitely be viable, but often require additional positive factors, including higher electricity rates, good solar resources, or strong PV incentives. For rooftops, the area available for PV is subject to local building codes and the final layout should be performed by a qualified installer. The following approximations can be used to estimate the rooftop area available for PV.

1. Subtract 8ft from each outside edge of the building to determine the dimensions for calculating gross rooftop area.
2. For rooftop equipment (e.g., HVAC, elevator shafts, TV dishes), skylights and other rooftop penetrations, add 6ft to each dimension of the equipment to determine the area that should be excluded from the total area available for PV.

Factor 2: ROOF AGE

Significantly Hindered	Hindered	Neutral	Positive
3-5 years until replacement	6-10 years until replacement	11-15 years until replacement	16-20+ years until replacement or 1-2 years until replacement (and align PV construction with roof replacement)

If a roof with an installed PV system needs significant repairs or replacement, there are three additional costs involved: partially or fully removing (decommissioning) the PV system during the roof replacement process; loss of PV electricity output when the roof work is being conducted; and the re-installation process. That is why it is desirable to install a PV system on a roof that will not be replaced for more than a decade or, for a roof being replaced within the next two years, to wait until the roof replacement to install PV.

Factor 3: SHADING

Significantly Hindered	Hindered	Neutral	Positive
20%-30% shading throughout the day[2]	11%-20% shaded throughout the day	6%-10% shaded throughout the day	5% shaded throughout the day

The output of a PV system is very sensitive to the amount of time the panels are subject to even partial shading. This is because when individual solar cells within a panel are shaded, current flow through the entire panel is restricted, even if most cells are unshaded. The same is true if just one panel is shaded in a string of several panels connected in series—the power output of the entire string will be reduced.[3]

[2]Greater than 30% shading should be considered a deal-breaker for a site.
[3]Microinverters can optimize PV production at the individual panel level and reduce the negative effects of shading, but microinverters add to project cost.

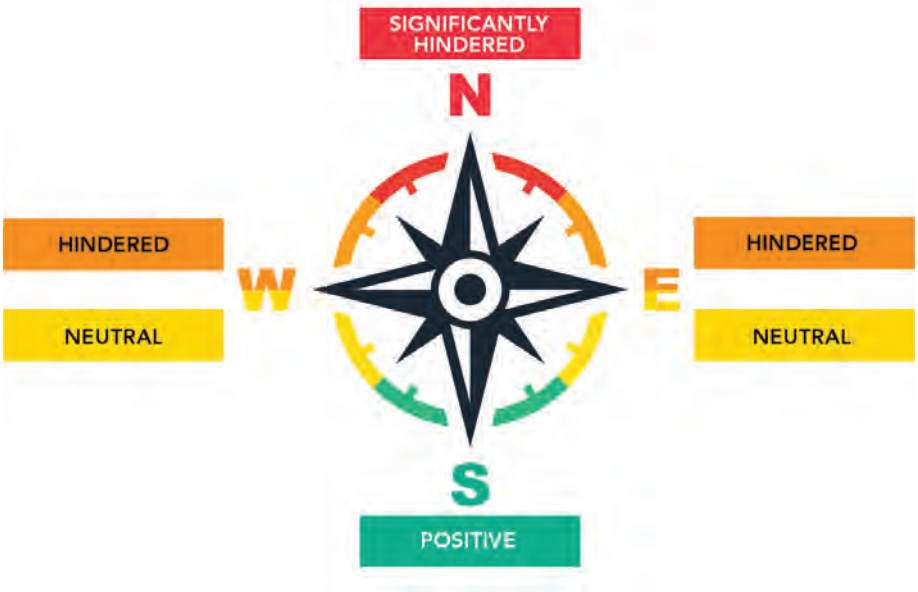
While solar firms can perform precise shading assessments, to obtain a rough estimate of the degree of shading on a site, you will need to consider the number, height, and distance of obstacles (trees, buildings, etc.) located south of the array. A good rule of thumb to avoid shading of the array is to make sure that the array is at least 3 times the height away from the tallest obstacle south of the array. For example a tree that extends 20ft above the array should be at least 60ft from the array. Doing so will give you a rough idea of trees or structures that are likely to cast shadows on the array, and for about how long. While very approximate, this exercise should give you sufficient accuracy for the purposes of this initial site screening.

Factor 4: SYSTEM ORIENTATION

Significantly Hindered	Hindered	Neutral	Positive
Between 345° and 45°	Between 270° and 344° or 46° and 90°	Between 225° and 269° or 91° and 135°	Between 136° and 224° or Flat roof or terrain

In the Northern Hemisphere, PV systems typically maximize their annual generation when panels face due south. This is because the sun transverses across the southern sky and PV panels facing due south can typically absorb and convert up to 20% or more solar energy than panels facing other directions. If a sloped roof has an orientation that is rotated significantly to the east or west, annual energy generation will be reduced, but the reduction is modest until the deviation from due south exceeds 45 degrees. The compass graphic in Exhibit 3: PV System Orientation Relative to Compass Points can help score your property on the scale below from to positive.

Exhibit 3: PV System Orientation Relative to Compass Points



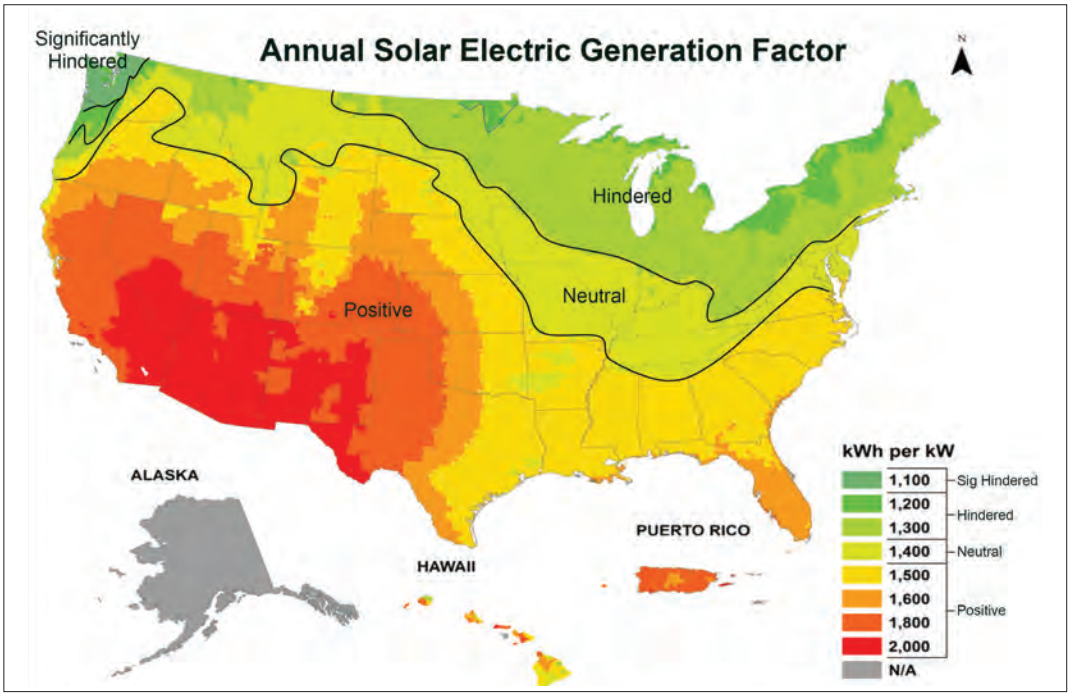
Orientation will also impact the time of day at which the system is generating maximum power, with east-facing arrays peaking in the morning and west-facing arrays peaking in the afternoon. Unless there are significant terrain constraints, a ground mounted PV system and solar parking canopies will typically be oriented due south to maximize solar generation.

Factor 5: AVAILABLE SOLAR RESOURCE

Significantly Hindered	Hindered	Neutral	Positive
Electricity Production Ratio (annual kWh/kW of capacity)			
<1,200	1,200-1,399	1,400-1,499	1,500>

The amount of solar energy available varies widely across the U.S., affected primarily by latitude and prevailing weather patterns. The available solar energy ("insolation") will determine the amount of electricity that any given PV system can generate. Exhibit 4 illustrates how solar resources vary, with data expressed as annual. Because the solar resources in the U.S. are high relative to many other industrialized nations, much of the U.S. has neutral to positive resources. To estimate the solar resource for your facilities most quickly, you can use the gradient lines on Exhibit 4 below. To estimate solar electricity production in your geographic vicinity more precisely, the National Renewable Energy Laboratory (NREL) has useful free tools, including the streamlined **PV Watts** and the **System Advisor Model** (SAM). You can calculate annual electricity output for various levels of system size (capacity) from the NREL tool outputs.

Exhibit 4: PV System kilowatt-hours (kWh) of electricity output per kilowatt (kW) of installed solar capacity Production across the U.S..



The above map comes from HUD's CPD Renewable Energy Toolkit, available on the **HUD Exchange**. The underlying map is based upon NREL's solar summary dataset, as described in the CPD Toolkit, but contour lines have been added.

Factor 6: SITE DEVELOPMENT PLANS

Significantly Hindered	Hindered	Neutral	Positive
Major facility upgrades/sale planned within next 2-7 years	Major facility upgrades/sale planned 8-12 years from present	Major facility upgrades/ modifications planned 13-16 years from present	Facility will be upgraded within the next year, or No plans to materially modify facility within the next 16 years, or Facility is high visibility/showcase facility

With investment payback periods that frequently exceed seven years, PV systems require long-term stability to be viable. Most multifamily affordable housing facilities have some type of long term road map or development plan that may include activities such as sale of assets, major renovations, system upgrades/retrofits, or construction of new facilities. The timing of these activities as well as their impact on the energy usage at the facility should be carefully considered before implementing a solar project. In addition to stability of use considerations, visibility issues can be important in ranking sites. Showcase facilities often are prioritized because their visibility can raise community awareness of the economic and environmental benefits of solar projects.

If you are planning a major energy renovation in the next year, the site may be an excellent candidate for solar on this factor (since the solar can be "right-sized" to facility requirements), but actual solar deployment should occur in conjunction with or following the renovation.

Factor 7: PROPERTY RISK

Significantly Hindered	Hindered	Neutral	Positive
Access			
Remote, but accessible, location with no electronic monitoring	Remote, but accessible, location with monitoring	Hindered accessibility	Inaccessible location (i.e., protected from access risk)
Extreme Weather			
Frequent extreme weather events (5 or more days of hurricanes, tornadoes, or heavy snowfall per year)	Occasional extreme weather events (3 days/year)	Rare extreme weather events (1 day/year)	No extreme weather events (<1 day/year)

Unlike the other technical factors in this Guide, this one is divided into two sub-factors: Access and Extreme Weather. Each sub-factor gets half-weight on the rating scale above and should be combined to reach the total score on this factor. PV assets (property) are capital-intensive and can be damaged by acts of vandalism based on the ease of access by outside parties to the solar array with greater access associated with greater risk or by extreme weather events such as hurricanes, tornadoes, or very heavy snowfall. Protection of the PV system against theft, damage or extreme weather needs to be considered as part of the long-term viability of the system both to reduce insurance costs and to reduce the possibility of losses.

These property risks can be mitigated by placing the solar project in a lower-risk location or by equipment selection and engineering choices. For example, weather risks can be mitigated in almost all U.S. locations by flush-mounting PV panels on a flat roof to reduce hurricane or tornado exposure or creating the appropriate tilt angle and drainage path for snow melt. Vandalism risks and theft can be mitigated with fencing and other protective measures.

Step 3: Economic Screening Factors

To complement the seven technical factors just described, there are five economic screening factors described on the following pages. These include: number and type of electric meters, net metering rules, the interconnection process, utility rate structure and level, and incentive value.

Factor 8: NUMBER AND TYPE OF UTILITY ELECTRIC METERS

Significantly Hindered	Hindered	Neutral	Positive
Building metering in flux	Each residence individually metered	Each residence individually metered, and Large common area load (10,000+ kWh/ month)	Single electric meter at site , or Virtual net metering or bill aggregation that enables property owner/mgr. to allocate PV credits to multiple on-site or off-site meters

The metering arrangement for multifamily buildings can affect the complexity and economic viability of a proposed system. Other factors equal, buildings where a single, large PV system can be interconnected with a single master meter are more likely to be financially attractive than facilities with individually-metered dwelling units. That is because, in addition to the initial physical complexity and cost (e.g., from additional wiring) associated with installing PV behind several smaller meters, there is increased administrative complexity in managing the billing and allocating the savings benefits with multiple meters.

Issues associated with who pays electricity costs (tenants or property owner) and how that affects a property's affordable housing subsidies may also affect solar viability. That topic is out of the scope of this Guide. Please contact the subsidizing agency for additional guidance.

Factor 9: NET METERING RULES

Significantly Hindered	Hindered	Neutral	Positive
No net metering allowed or no compensation provided for net metered volumes	Net metered volumes compensated at avoided (wholesale) cost of generation	Net metered volumes compensated between wholesale costs and 95% of the full retail price of power	Net metered volumes compensated at 95%+ of the full retail price of power

"Net metering" rules dictate whether solar projects interconnected behind a customer's utility meter are allowed to export PV generation back to the utility that is not consumed on-site ("excess power"), and if so, the compensation received for the excess power. Net metering rules for each utility are described in the national Database for State Incentives for Renewables & Efficiency® (DSIRE).[4] Where net metering is allowed (most of the U.S.), compensation for excess power can vary widely from the utility's avoided costs (similar to its system-wide wholesale cost of buying replacement power) to full retail levels (including wholesale generation, transmission, distribution, and other charges). In some areas (e.g., Austin Energy in Texas), the net metering paradigm is supplemented or replaced by a Value of Solar mechanism for compensating solar production.[5] For the net metering scale above, if you are uncertain of wholesale costs, you can estimate them very roughly at 40% of full retail prices.[6]

Factor 10: UTILITY INTERCONNECTION RULES

Significantly Hindered	Hindered	Neutral	Positive
Explicit prohibition of most on-site generation, or No differentiation between small and large generators	No clear rules regarding on-site generation interconnection[7]	Interconnection rules in place for small generation (IEEE 1547)[8]	Utility completely or largely follows IREC best practices for interconnection standards[9]

[4]For utility-specific information, search from the **DSIRE database**. For statewide summary tables, see DSIRE resources on **Net Metering** and **Customer Credits for Monthly Net Excess Generation**. Net metering information for this factor (and interconnection information useful for the next factor) can also be found by selecting a state from DOE's database of tax credits, rebates, and savings.

[5]See DOE's Energy Information Administration for data on **retail** and **wholesale** electricity prices. There is substantial regional and seasonal variation in electricity prices..

[6]Value of Solar (VoS) is a methodology to determine the total cost of the energy that is displaced by the PV system. More information on Value of Solar Tariffs can be found at the **National Renewable Energy Laboratory's website**.

[7]The lack of clear interconnection rules for solar on-site generation would likely only occur on utility systems that are very small and that have zero to low levels of PV deployment on their systems.

[8]IEEE is the Institute for Electrical and Electronics Engineers. Its **Standard 1547** sets requirements for interconnection of distributed generation resources to the electrical grid.

[9]IREC is the Interstate Renewable Energy Council. Access its recommendations for **best practice interconnection standards** online.

The rules for the electrical interconnection of PV systems with the utility grid vary across the U.S. and are constantly evolving. For the sake of speed and precision in scoring this factor, you can also obtain views on utility solar interconnection rules from your utility account manager, from the DSIRE[10] website, or with assistance from a solar vendor.

Factor 11: UTILITY RATE STRUCTURE AND LEVEL

Significantly Hindered	Hindered	Neutral	Positive
Rate Structure			
Peak demand charges > 40% of bill	Peak demand charges between 26% - 40% of bill	Peak demand charges between 10% - 25% of bill	Peak demand charges < 10% of bill
Rate Level (overall electricity cost)			
<$.06/kWh	$.06/kWh -$.10/kWh	$.101/kWh-$.149/kWh	>$.15/kWh

When evaluating the savings potential of PV, the first place to look is the utility bill. This is because electricity produced by a solar project will offset (i.e., avoid) some portion of utility power costs[12]. The "offset value" of solar projects depends on both the level of utility power costs and their structure.

Organizations reviewing solar can make the mistake of concentrating only on the level of their utility costs (e.g., average annual electricity costs of 14 cents/kWh). However, not all rate structures are equally offset by solar and, in fact, some are not affected at all. The utility bill typically has charges broken into four categories[13]:

- **Fixed Charges** do not vary with electricity usage or peak demand and are often a standard amount each month.
- **Peak Demand Charges:** are based on the peak amount of electricity used during the month (e.g., the highest demand registered in any 15-to 60-minute period during the month). These charges are measured in kilowatts (kW). Some multifamily affordable housing organizations will not have demand charges, especially if the facility is tenant-metered.

[10]Acess the **DSIRE website** and enter "interconnection" under "Program Type" and "Solar Photovoltaics" under "Technology", then click on a state for details.

[11]"Utility power costs" here denotes all conventional power costs paid by an affordable housing organization. In traditional, vertically-integrated utility markets, all such costs are from the utility itself. In "deregulated" or "competitive generation" markets (such as in much of the Northeast U.S., Texas, and elsewhere), the generation and transmission portions of the costs may be paid to a competitive, non-utility supplier, and the distribution portions are paid to the utility.

[12]Some utility bills have power factor and other types of charges, but this Guide concentrates only on major, common categories. Further, the four categories listed are described in only the most basic terms. There is considerable variation in how these rate structures are deployed in practice. In addition, some utilities are implementing new or different fixed and peak demand charges for facilities with on-site solar. When reviewing utility rates for the purpose of site screening, affordable housing organizations should use the rate that would serve them with solar.

- **Usage Charges**[13] are based on the total electricity consumption during the month. These charges are measured in kilowatt-hours (kWh).
- **Taxes** are often applied as a percentage of the rate structures described above.

PV is very good at offsetting usage charges, but is generally poor at offsetting peak demand charges[14] and has no effect on fixed monthly charges. In the rating scale presented on the prior page, utility rate structure and rate level are on distinct rows, but should be combined to reach the score on this factor.

Factor 12: INCENTIVE VALUE

Significantly Hindered	Hindered	Neutral	Positive
$0	$0 - $.02/kWh	$.021/kWh - $.05/kWh	>$.05/kWh

In addition to offsetting specific local electric utility charges and obtaining federal incentives, PV projects may be able to access state, local, or utility solar incentives. The value of these incentives may be production based, capacity-based, onetime grants, or otherwise structured.

Production-based incentives (PBIs) compensate solar project owners on how much electricity production (performance) occurs. Every kWh receives compensation. A common form of PBIs are renewable energy certificates (RECs) or solar renewable energy certificates (SRECs). While PBI values can be used in assessing a site's economic viability, it is important to note that if the project owner sells the RECs or SRECs, the owner cannot make a valid claim to buying the green power from the solar project.[15] To standardize scoring, the ranges on the significantly hindered to positive scale above are expressed on a per-kWh basis. Information on incentives can be obtained from **DSIRE** or through discussions with local solar firms.

[13]These usage charges can be flat for all consumption, or may be differentiated by season (winter vs. summer) or time-of-use (on-peak vs. off-peak). Peak demand charges are also differentiated in similar ways. If a customer has high on-peak usage charges, PV systems may be more valuable than otherwise because the systems maximize their production during the middle of the day when on-peak rates are most likely to occur.

[14]The reason that peak demand is not much affected by PV is that there will likely be at least one time interval (e.g., 15- and 60-minutes depending on the utility) during a month when the facility will be using a large amount of electricity, but the PV project will be producing little to no power. This can occur during the evening or periods of intense cloudiness when the PV system would produce no power or during early morning or late afternoon when the PV system would produce very little power. The facility would register its monthly peak demand during that one interval.

[15]Jurisdictions with dedicated carve-outs for SRECs include the District of Columbia, Delaware, Maryland, Massachusetts, New Jersey, Ohio, and Pennsylvania. For more information, see **DSIRE's website**. For more information on RECs, SRECs, and green power claims, please see U.S. Environmental Protection Agency **Green Power Partnership**.

Step 4: PULLING IT ALL TOGETHER: PREPARING FOR THE DEVELOPMENT OF VIABLE SITES

By completing this Guide, you have taken an important step towards implementing solar at your properties. You should be able to better assess whether each of your multifamily properties will be high, medium, or low-potential candidates for solar. For organizations with portfolios of properties, the Guide, together with the accompanying Excel spreadsheet, should help you rank property viability so that you can concentrate efforts on locations with the best chances of success. The Guide is also meant to assist multifamily affordable housing organizations in becoming informed buyers of solar by gaining basic knowledge on each of the 12 solar technical and economic factors described here.

Two important steps that should follow initial site selection **before** evaluating financing methods for solar and conducting procurement and due diligence for specific solar projects, are:

- **Determining other site-specific factors that may be important.** This Guide is, as a national document, necessarily general in nature. There may be additional factors that could play an important role in the solar viability of a specific property. For example, a property manager may be aware of a special affordable housing sustainability subsidy offered by a local government that would push sites to the top of the list. Likewise, a facility manager may know of a local code requirement that could invalidate a particular site that otherwise looked promising.
- **Keeping stakeholders engaged.** Successful solar deployment will require the support of and frequent communication with all relevant stakeholders. This will ensure that all parties are informed and participate at appropriate places in the decision-making process. The **Organizational Solar Readiness Assessment** provided by HUD can help address this issue for multifamily affordable housing properties. Additional renewable energy guidance materials are also available on the **HUD Exchange Renew300 website**.