



## Commercial Solar Ready Guidelines New Construction Only

The following information provides guidance to applicants and reviewers in determining compliance with the commercial Solar Ready code.

### Project Determination

#### What is the proposed use of the building?

- a) Permanent occupancy residential (i.e. apartments & condominiums, but **not** hotels, motels, etc.)
- b) All other

#### Number of stories above grade plane?

Count all floors above grade including parking levels and the top floor even if it's smaller than the floors below.

- a) Four or fewer
- b) Five or more

If you answered a) for **both** 1 and 2, the project will fall under the residential energy code. Please refer to the Residential Solar Ready Guidelines for requirements.

If you answered b) for **either** 1 or 2, the project falls under the commercial energy code. Continue with this guideline. Space on the roof could be required to be set aside for a possible future solar array.

### Exceptions

If any of the following exceptions apply, the entire project is excluded from the solar ready requirement:

- Solar Ready Zone Area (defined below) < 2,000 square feet (185.8 square meters)
- High hazard buildings (Group H)
- Roofs located within the downtown network as identified in Appendix A of the current Austin Energy Distribution Interconnection Guide
- When compliance with 2015 IECC, section C406.5 is demonstrated

## Solar Ready Zone (SRZ) Identification

If the project does not qualify for any of the exceptions, then an area on the roof must be identified as the Solar Ready Zone (SRZ):

**1. Determine the gross roof area.**

This should be a summation of all the roof areas regardless of whether they are on the same elevation.

**2. Calculate the Affected Area.**

Affected Area describes the parts of a roof that aren't good for a solar array. It's defined as the sum of the following, non-overlapping areas:

- A. Areas of the roof that are shaded for at least 50% of daylight hours annually during the year the project is permitted.
- B. Areas of high pitched roofs (roofs with a pitch>2:12) that are oriented from 300° clockwise to 90° of true north.
- C. Gross area of all skylights.
- D. Area of rooftop equipment, including required access paths.
- E. Those areas of the roof required by the fire code or by other sections of the Land Development Code to not have solar equipment.
- F. Areas of roofs used as heliports or for rooftop parking.
- G. Green roofs and occupied rooftop areas.

A note on the Affected Area

Generally, any method deemed acceptable by the building official for determining what is shaded and what is not shaded, or what constitutes part of an affected area, will be accepted as long as it adheres to the intent of the SRZ Identification guidelines. Since the City's experience and familiarity with the methods used to define these areas is still limited, all reasonable approaches will be allowed. If a particular approach is determined to be unacceptable and disagreement with that determination persists, an appeal to the appropriate review boards and/or commissions may be made.

**3. Calculate the Potential Solar Area.**

The Potential Solar Area is the area of the roof that does lend itself well to a solar array.

$$\text{Potential Solar Area} = \text{Total gross roof area less the "Affected Area"}$$

**4. Calculate the area of the Solar Ready Zone.**

$$\text{Solar Ready Zone Area} = \frac{1}{2} \text{ of the "Potential Solar Area"}$$

*This table is intended to aid in SRZ Identification calculations:*

	<b>Gross Roof Area</b>
	A
	B
	C
	D
	E
	F
	G
	<b>Affected Area</b> (Subtotal A thru G. Check that these areas don't overlap)
	<b>Potential Solar Area</b> (Gross Roof Area minus Affected Area)
	<b>Solar Ready Zone Area</b> (Potential Solar Area divided by 2. Reminder: exempt if less than 2000 sq ft)

The Solar Ready Zone can lie anywhere on the roof that isn't part of the Affected Area and can be comprised of multiple sub-areas. Each sub-area must be at least 80 square feet (7.432 square meters) and must be a rectangle the short side of which measures at least 6 feet (1.83 meters).

## Other requirements:

- **The structural loads to which the roof was designed must appear on the construction documents.**  
This is to allow an experienced solar contractor to briefly review these documents and provide an estimate as to whether the roof might support an array. Final determination of structural adequacy must still come from a registered design professional as specified by code.
- **An interconnection pathway must be defined.**  
It's not necessary that a solar installer use this pathway, only that it be considered and appear on the approved drawings.
- **A location in the electrical distribution system must be permanently marked as “For Future Solar Electric”.**  
The array is not required to make its connection at this point, only that it be considered and labeled during construction.

### A Note on Future Use and Equipment.

This solar ready requirement is not intended to encumber the future. If the solar ready zone needs to be re-designated or re-sized to accommodate a tenant, it can be as long as each building, as a whole, can be shown to comply with the requirements. It is also not intended to suggest the size of a potential future array by dictating a minimum space allocation for ancillary equipment such as inverters, etc. Designers will be trusted at this point to handle the space allocation issues in a responsible fashion. If that proves too challenging, the requirements can be modified accordingly.