

ZONING REVIEW – Doylestown Borough, PA



PZD-1: Review zoning requirements and remove restrictions that intentionally or unintentionally prohibit PV development. Compile findings in a memo, and commit to reducing barriers to PV during next zoning review.

This SolSmart prerequisite requires communities to (a) conduct a review of zoning requirements, (b) identify restrictions that prohibit PV development, and (c) commit to addressing these barriers during the next community zoning review. To assist your community, the national solar experts at SolSmart have conducted an initial review of your community's code to assess possible obstacles (i.e. height restrictions, set-back requirements, etc.) and gaps. Below, please find the outcome of their review. By reading the narrative, reviewing the example code language provided, and signing the statement at the bottom of the page, your community will satisfy PZD-1 and be one step closer to achieving SolSmart designation.

As there are no references to solar in the current code, the development of a solar ordinance may be advisable. Below are some considerations for the creation of such an ordinance. Solar may still be worth adding to the use tables for each district in the existing sections of the code, even solar's status as by-right is established in the solar ordinance.

Gaps in current code language

Element	Best Practice	Reviewer Comments	Example(s) from other codes
Intent/purpose	<ul style="list-style-type: none"> Many municipalities have inserted language explicitly encouraging solar in the section that lays out the intent and purpose of the solar ordinance. 	<ul style="list-style-type: none"> "Providing for adequate light and air" only purpose that could be tied to solar 	See P.7-8 of DVRPC Renewable Energy Ordinance Framework
Definitions	<ul style="list-style-type: none"> Include in the definition of a solar energy system: solar collectors or solar energy devices used for space heating, space cooling, electric generation, and water heating 	<ul style="list-style-type: none"> <u>Solar energy equipment</u>: Any device, structure or electronics that convert solar energy into electrical energy, heat water or produce hot air or similar function through the use of solar panels. The primary function of 	Massachusetts model solar ordinance

	<ul style="list-style-type: none"> Define and distinguish between large-scale or primary use installations and secondary or accessory use installations 	<p>solar energy equipment is to reduce on-site consumption of energy produced by a public/private utility company.</p> <ul style="list-style-type: none"> This is a very good definition for solar energy equipment. Solar panel: A device containing one or more receptive cells equal to or greater than two square feet, the purpose of which is to convert solar energy into electrical or thermal energy. Section 615 <ul style="list-style-type: none"> Solar Energy Equipment considered an accessory structure. 	
Use-by-right	<ul style="list-style-type: none"> Allow small rooftop and ground mount solar installations in all major zoning districts as a use-by-right (allowed without special review) Many communities identify and allow for solar installations as accessory uses in every district 	<ul style="list-style-type: none"> Section 615 Solar Energy Equipment <ul style="list-style-type: none"> Any solar energy equipment authorized by this Chapter shall be considered accessory structures and the generation of energy or heat as an accessory use to the principal use in any zoning district and shall be subject to and comply with the following" Green Points program contains great guidelines and incentive for solar-friendly design. 	<p>Use Tables P. 3 Massachusetts model solar ordinance</p>
Encouraging solar-friendly design	<ul style="list-style-type: none"> Many municipalities encourage subdivisions to be laid out in an orientation that would maximize either active solar or passive solar benefits. Some possible ways to encourage solar include waiving permit fees, providing density bonuses, reducing minimum parking requirements, and mandating solar ready construction. 		<p>See P. 12-13 of APA Essential Info Packet-30 ("Solar Orientation and Siting" and "Solar-Ready Homes") See P. 2 of APA Solar Briefing Papers ("Creating Incentives")</p>
Height	<ul style="list-style-type: none"> Provide rooftop solar an exemption from or allowance above building height restrictions Identify a maximum allowed ground mount solar height of 10'-15' 	<ul style="list-style-type: none"> Section 523 - "...rooftop mechanical equipment shall not exceed 12 feet in height above the finished roof line." Solar is considered rooftop mechanical equipment in this instance. 12' is a good allowance above building height restrictions. 	<p>P. 7 Massachusetts model solar ordinance</p>
Lot coverage	Exempt ground mount solar from lot coverage restrictions that apply to primary buildings	<ul style="list-style-type: none"> Ground mount systems are not included in impervious cover calculations. 	<p>P. 9 Model Zoning for the Regulation of Solar Energy Systems</p>
Accessory use maximum	<ul style="list-style-type: none"> Exempt solar from the maximum allowable number of accessory uses 	<ul style="list-style-type: none"> I did not see an accessory use maximum 	

Setbacks	<ul style="list-style-type: none"> Require a setback applicable to fences to ground mount solar, rather than a setback required of buildings, or allow solar an exemption from setback requirements 	<ul style="list-style-type: none"> If ground mount systems are buildings, Section 406, 61C limits them to 2.5' set back, max area of 100 square feet, and max height of 8' 	<p>P. 7, 8 Model Zoning for the Regulation of Solar Energy Systems</p>
Aesthetic requirements	<ul style="list-style-type: none"> Exempt solar from rooftop equipment screening requirements Allow PV installations to be seen from public roadways Limit screening or aesthetic requirements to historic districts 	<ul style="list-style-type: none"> Ground mount systems not allowed in front yards. This is pretty standard, if not the most permissive. Rooftop systems are allowed to be visible from public rights of way, which is great. Rooftop systems seem to be required to be flush mounted, with only a 6" gap allowed between the panels and the system. This isn't the most permissive; as sometimes tilting is necessary. This also doesn't account for flat roofs where tilting will be absolutely necessary. Section 523 <ul style="list-style-type: none"> Rooftop mechanical equipment must be screened. If this applies to solar this is not permissive and can hinder the efficiency of the panels. 	<p>P.19 DVRPC Renewable Energy Ordinance Framework Historic districts</p>
Rooftop fire safety access and setbacks	<ul style="list-style-type: none"> Limit setback requirements from roof ridges to 3' and 1.5' from valleys and headwalls to allow access Do not restrict rooftop solar based on a percentage of rooftop coverage (These restrictions may be amendments to the International Fire Code or part of the development regulations instead of the zoning code) 	<ul style="list-style-type: none"> I did not see any setback requirements for rooftop systems. Ground mount systems have same setbacks as accessory structures. These are probably covered in the 2015 I-codes recently adopted in PA. 	<p>San Francisco Solar PV System Safety and Fire Ground Procedures LA PV Fire Safety</p>
Glare	<ul style="list-style-type: none"> Do not regulate glare from photovoltaic installations as PV modules use non-reflective glass and are designed to absorb rather than reflect sunlight. PV modules are generally less reflective than windows. Municipalities can defer to the Federal Aviation Administration to regulate potential glare from solar installations on or near airports 	<ul style="list-style-type: none"> Section 607 Glare. <ul style="list-style-type: none"> "No use shall produce a strong, dazzling light or a reflection of a strong, dazzling light beyond its lot lines." While this shouldn't affect solar, it could be a way for neighbors to require systems be removed, without much evidence. "Ground-mounted panels shall be oriented away from windows of adjacent or neighboring buildings to reduce occurrences of direct sun reflection and glare." 	<p>FAA guidance PV at airports</p>

		<ul style="list-style-type: none"> o This is a concern, as these systems would almost always need to be oriented South. 	
Ground mount solar	<ul style="list-style-type: none"> • Allow for small ground mount installations as accessory uses and large, primary use installations through a conditional or special use permit 	<ul style="list-style-type: none"> • Small ground mount installations allowed as accessory uses in all major districts. • "There shall be no commercial use of the solar energy equipment for generation of energy, except for energy purchased by a public utility in accordance with law or other government regulations." <ul style="list-style-type: none"> o Primary use solar installations are not allowed in the Borough. 	<p>P. 38 APAs Integrating Solar Energy into Local Development Regulations</p>
Preexisting non-conforming uses	<ul style="list-style-type: none"> • Code should exempt rooftop solar or small ground-mounted solar from any special permits that may be required for alterations to a lot or structure that contains a preexisting non-conforming use. 	<ul style="list-style-type: none"> • According to section 903 #2, accessory use solar installations are permitting on preexisting non-conforming uses. 	<p>P. 20-21 Massachusetts model solar ordinance</p>
Historic district guidance	<ul style="list-style-type: none"> • Municipal code should clearly explain the review process for historic districts. • Historic commissions and review boards are encouraged to write design guidelines that support the development of solar energy systems and are sensitive to the historic preservation goals of the Commission. 	<ul style="list-style-type: none"> • No guidelines specific to solar, however there are some guidelines for mechanical equipment. 	<p>NREL's Implementing Solar PV Projects on Historic Buildings and in Historic Districts NC Clean Energy Technology Center: Installing Solar Panels on Historic Buildings</p>
Solar access/solar rights	<ul style="list-style-type: none"> • Establish a mechanism to protect solar access and rights (e.g. solar easement for installations) • Include active and passive solar provisions (such as orientation) in development and subdivision regulations 	<ul style="list-style-type: none"> • Section 612 Protection of Solar Access. 	<p>Wisconsin State Statute §66.0401. Perry, IA Subdivision Regulations</p>
Regulate based on the area or impact	<ul style="list-style-type: none"> • Define and regulate solar installations based on the area (e.g. square feet) or impact of the installation rather than the capacity (kW) as efficiencies and technologies change over time • Do not regulate based on the use of the energy generated (e.g. requiring that accessory use solar electricity generation be consumed exclusively on-site), as this is often irrelevant to the impact 	<ul style="list-style-type: none"> • Best practice is generally to regulate based on area of impact. In other words, it would be more permissive to control the size of systems with height and setback requirements rather than how much energy they produce. This allows for more future improvement in panel efficiency, when more power can be produced with the same panel size. • Additionally, net metering laws in PA account for capacity limitations per use type. 	<p>See p. 19 of Planning and Zoning for Solar in North Carolina Example: Fort Collins, CO</p>

		<p>o The Pennsylvania Utility Commission (PUC) Limits system sizes eligible for net metering based on use:</p> <ul style="list-style-type: none"> ▪ 50 kW capacity limit for residential ▪ 1 MW capacity limit for non-residential ▪ 3 MW capacity for microgrid and emergency systems 	
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have read the review above and commit to discussing these gaps at the next community zoning review, scheduled for August 12, 2019, with the goal of addressing them in the code.

Signature Karen Highland _____ Date 7/23/19 _____

Karen Highland [Name] _____ Director of Building & Zoning [Title] _____ Dorchester Borough PA [Community] [State]