

PZ-1 Zoning Review

Community: Kingston, NY



PZ-1: Review zoning requirements and identify restrictions that intentionally or unintentionally prohibit solar PV development. Compile findings in a memo. (Required for Bronze)

To assist your local government, the national solar experts at SolSmart have conducted a review of your community’s zoning and land use regulations to assess the use of best practices, possible barriers (i.e. height restrictions, set-back requirements, etc.) and gaps related to solar PV development. Below, please find the outcome of the review. By reading the narrative and signing the statement at the bottom of the page, your community will satisfy the PZ-1 pre-requisite and be one step closer to achieving SolSmart designation.

Summary

Kingston’s zoning code was accessed and reviewed during May 2023. The code was accessed via the Kingston [website](#) (with a redirect to the [Engage Kingston](#) website).

- A search for “photovoltaic” yielded [2] results.
- A search for “solar” yielded [5] results.
- A search for “renewable energy” yielded [18] results in reference to
- A search for “clean energy” yielded [0] results in reference to

Best Practice Review

Kingston’s code was reviewed to determine if it incorporates best practice regulations for solar energy. Incorporating best practices improves transparency of processes and clarity of development standards and can enhance the growth of the local solar market in an organized and efficient manner

Purpose or Intent			
The code contains a purpose or intent for including solar energy regulations in the code.			
Code Language	Section: 405.21 Supplemental Use Standards		
Small-Scale Renewable Energy Systems have minimal or limited impacts on surrounding uses and are intended to supply renewable energy to an individual building, or contribute to block-scale resiliency efforts . Examples include: (a) Roof-mounted solar energy systems (a photovoltaic system of electricity generating solar panels mounted on the roof of a structure or consisting of the roof material itself) with a footprint of up to 100% of the building footprint on which the system is attached. (b) Ground-mounted solar energy systems (a photovoltaic system of electricity generating solar panels mounted on the ground) with a footprint not greater than 600sf.			
Reviewer Comments	Best Practice: <input checked="" type="checkbox"/>	Needs Improvement: <input type="checkbox"/>	Barrier: <input type="checkbox"/>
This aligns with SolSmart best practices			
Suggested Language			
N/A			

Definitions	
The code contains definitions for solar energy.	
Code Language	Section: 405.21 Supplemental Use Standards; 405.2 Definitions
(a) Roof-mounted solar energy systems (a photovoltaic system of electricity generating solar panels mounted on the roof of a structure or consisting of the roof material itself) with a footprint of up to 100% of the building footprint on which the system is attached.	

(b) Ground-mounted solar energy systems (a photovoltaic system of electricity generating solar panels mounted on the ground) with a footprint not greater than 600sf.

RENEWABLE ENERGY SYSTEM (LARGE-SCALE) Renewable energy systems that exceed the limits for a small-scale renewable energy system established in Sec 405.21.O. Large-scale renewable energy systems may produce renewable energy for public or private entities.

RENEWABLE ENERGY SYSTEM (SMALL-SCALE) Renewable energy systems that have limited impacts on surrounding properties and uses, and are intended to supply renewable energy to an individual building, or contribute to block-scale resiliency efforts. See Sec 405.21.O.

Reviewer Comments	Best Practice: <input checked="" type="checkbox"/>	Needs Improvement: <input type="checkbox"/>	Barrier: <input type="checkbox"/>
The ordinance addresses the basic SolSmart definition criteria and is in alignment with best practices.			
Suggested Language			
N/A			

Roof-mounted Accessory Use Solar			
The code explicitly permits accessory use roof-mounted solar PV systems as a by-right or allowed use.			
Code Language	Table 405.5.C: Transect District Permitted Uses Summary		
Use Permitted By-Right			
Reviewer Comments	Best Practice <input checked="" type="checkbox"/>	Needs Improvement <input type="checkbox"/>	Barrier <input type="checkbox"/>
This aligns with SolSmart best practices. Codifying roof-mounted accessory use solar as a permitted use provides clarity and transparency. This action will allow the local government to submit for PZ-5, the Planning and Zoning pre-requisite for Gold designation.			
Applicable SolSmart Credit: PZ-5, Codify in the zoning ordinance that accessory use rooftop solar PV is explicitly allowed by-right in all major zones.			
Suggested Language			
N/A			

Roof-mounted Solar Height			
Option 1	The code does NOT exempt roof-mounted solar PV from height restrictions.		
Option 2	The code allows roof-mounted solar PV to exceed height restrictions by a defined number.		
Code Language			
Section: 405.5.B Transect District Dimensional Standards Summary			
N/A			
Reviewer Comments	Best Practice <input type="checkbox"/>	Needs Improvement <input checked="" type="checkbox"/>	Barrier <input type="checkbox"/>
Needs Improvement			
The height requirements referenced in the code are reasonable, however it is best practice to <i>explicitly</i> exempt roof-mounted solar energy systems from district height requirements.			
Applicable SolSmart Credit: PZ-6, Ensure the zoning ordinance language does not include intentional or unintentional barriers to accessory use rooftop solar PV, including but not limited to			

aesthetic or performance standards, screening requirements, limits to visibility, excessive restrictions to system size or rooftop coverage, glare or glint regulations, and subjective design reviews. (Required for Gold, PZ-4 is optional)

Suggested Language

- **On a pitched/sloped roof, solar energy systems shall be installed parallel to the roof surface and may not extend beyond the edge of the roof peak. On a flat roof, solar energy systems are permitted to exceed the zoning district height limits by up to 10 feet.*
- Explicitly exempt roof-mounted solar energy systems from district height restrictions.
- Explicitly exempt ground mounted solar energy systems from lot coverage calculations.

(Insert in Notes of Table)

Ground-mounted Accessory Use Solar

The code explicitly permits accessory use ground-mounted solar PV systems as a by-right or allowed use in at least 1 zoning district.

Code Language | **Table 405.5.C: Transect District Permitted Uses Summary**

Use Permitted By-Right

Reviewer Comments | Best Practice | Needs Improvement | Barrier

This aligns with SolSmart best practices. Sometimes a property is not suitable for a roof-mounted solar system because the building has structural limitations, or the rooftop is shaded. In these instances, a small ground-mounted solar PV system can still allow the property owner to install solar and enjoy the benefits.

Applicable SolSmart Credit: PZ-7, Ensure the zoning ordinance permits small ground-mounted solar PV as an accessory use in at least one zoning district.

Suggested Language

N/A

Ground-mounted Solar Setbacks

The code contains setback standards for accessory use ground-mounted solar PV.

Code Language | **Section: 405.21 Supplemental Use Standards**

All above ground Small-Scale Renewable Energy Systems equipment/components are subject to the setbacks of the underlying Transect Standards. Ground-mounted Small-Scale Renewable Energy Systems and their associated support systems (ex. guy line anchors) are subject to a 15' front setback, and a side and rear setback of 5'.

Reviewer Comments | Best Practice | Needs Improvement | Barrier

Accessory use ground-mounted solar energy systems have similar setback requirements to other residential accessory use structures and are considered SolSmart best practice.

Applicable SolSmart Credit: PZ-8, Ensure the zoning ordinance exempts small ground-mounted solar PV from certain restrictions on accessory uses (e.g. setbacks, coverage or impervious surface calculations, or other restrictions).

Suggested Language

N/A

Ground-mounted Solar Placement			
The code contains placement standards for accessory use ground-mounted solar PV.			
Code Language	Section: Section: 405.21 Supplemental Use Standards		
All above ground Small-Scale Renewable Energy Systems equipment/components are subject to the setbacks of the underlying Transect Standards. Ground-mounted Small-Scale Renewable Energy Systems and their associated support systems (ex. guy line anchors) are subject to a 15' front setback, and a side and rear setback of 5'.			
Reviewer Comments	Best Practice <input checked="" type="checkbox"/>	Needs Improvement <input type="checkbox"/>	Barrier <input type="checkbox"/>
This aligns with SolSmart best practices. The zoning ordinance permits small-scale renewable systems in the front yard with a 15' front setback in certain districts as a component of supplemental use standards. This indicates that discretion has been made regarding the placement of small-scale renewable energy systems within certain districts.			
Suggested Language			
N/A			

Ground-mounted Solar Lot Coverage/Impervious Surface			
The code does NOT exempt accessory use ground-mounted solar PV from lot coverage and/or impervious surface standards.			
Code Language	Section: 405.5.B Transect District Dimensional Standards		
N/A			
Reviewer Comments	Best Practice <input type="checkbox"/>	Needs Improvement <input checked="" type="checkbox"/>	Barrier <input type="checkbox"/>
Needs Improvement			
As long as the area beneath a ground-mounted solar PV system is pervious (e.g. grass, native vegetation, etc.) the system should be exempt from lot coverage and impervious surface requirements. The tilt and spacing of solar panels allow for precipitation to drain into the pervious ground cover. Ground-mounted PV systems are not analogous to paved driveways or accessory structures like sheds, garages, or accessory dwelling units and therefore do not need to be included in lot coverage or impervious surface calculations.			
Applicable SolSmart Credit: PZ-8, Ensure the zoning ordinance exempts small ground-mounted solar PV from certain restrictions on accessory uses (e.g. setbacks, coverage or impervious surface calculations, or other restrictions).			
Suggested Language			
*Ground-mounted solar energy systems are exempt from lot coverage and impervious surface requirements if the area under the system contains vegetative ground cover. (Place under permitted use table).			

Ground-mounted Solar Primary Use			
The code includes standards for primary use ground-mounted solar PV.			
Code Language	Section: 405.5.C Transect District Permitted Uses Summary		
N/A			
Reviewer Comments	Best Practice <input checked="" type="checkbox"/>	Needs Improvement <input type="checkbox"/>	Barrier <input type="checkbox"/>

Ground-mounted solar as a primary use is permitted under Large-Scale Renewables in the ordinance as a special permit use. Approval under the special permitting process grants the Board necessary discretionary authority to approve large scale solar projects as a primary use.
Applicable SolSmart Credits: PZ-9, Ensure the zoning ordinance establishes a clear regulatory pathway for large-scale solar PV (e.g. through a special use permit or through inclusion among allowed conditional uses).
Suggested Language
N/A

Barrier Review

Solar energy standards should serve to guide and enable solar development, not create ambiguity or restrict solar development. Certain design and performance standards can create significant barriers to solar PV. The inclusion of any of the following standards are not best practices and will likely impact the local government’s ability to achieve SolSmart Gold designation. The statements containing NOT align with best practices.

Roof-mounted Solar Screening	
The code does NOT require screening for roof-mounted solar PV systems.	
Code Language	Section:
N/A	
Reviewer Comments	
It is not a best practice to require screening for roof-mounted solar energy systems. Screening requirements may increase installation costs and decrease system efficiency. Solar PV performance depends on optimal siting of the system and clear access to solar radiation. Screening requirements could negatively impact system performance if the screening results in shading. Screening requirements could also hide the location of important system components that are necessary to shut off a system in case of a fire or other type of emergency.	

Limits to System Visibility	
The code does NOT include standards to limit system visibility (e.g. not visible from public rights of way).	
Code Language	Section:
N/A	
Reviewer Comments	

Aesthetic Standards	
The code does NOT include aesthetic standards for solar PV systems.	
Code Language	Section:
N/A	
Reviewer Comments	
N/A	

Glare, Glint, and/or Noise Standards	
The code does NOT include glare, glint, and/or noise standards for solar PV systems.	
Code Language	Section:

N/A
Reviewer Comments
It is not a best practice to require a glare study prior to the installation of a solar energy system. Solar PV panels are designed to absorb incoming solar radiation and limit the amount of reflected light. Solar panels are designed with anti-reflective glass. A glare study will increase installation costs
The glare from a solar panel is similar to that of smooth water. A glare study is recommended if solar panels will be sited close to an airport but otherwise the analysis is usually unnecessary, adding time and cost to a project.

Roof Space Coverage Limit	
The code does NOT limit solar PV system coverage to a percentage/part of the available roof space.	
Code Language	Section: 405.21 Supplemental Use Standards
Roof-mounted solar energy systems (a photovoltaic system of electricity generating solar panels mounted on the roof of a structure or consisting of the roof material itself) with a footprint of up to 100% of the building footprint on which the system is attached.	
Reviewer Comments	
N/A	

Prohibition on Flat or Low Sloped Roofs	
The code does NOT prohibit solar PV systems on flat or low sloped roofs.	
Code Language	Section:
N/A	
Reviewer Comments	
It is not a best practice to prohibit solar energy systems on flat or low sloped roofs. All buildings should have the opportunity to install a roof-mounted solar energy system regardless of roof slope, so long as the roof is structurally capable of having a solar energy system. Many buildings with flat roofs like warehouses, data centers, distribution centers, and big box retail stores are excellent candidates for roof-mounted solar energy systems.	

Limits on Electricity Production	
The code does NOT include limits on how much electricity a solar PV system can produce.	
Code Language	Section:
N/A	
Reviewer Comments	
It is not a best practice to include limits on the amount of electricity a solar energy system can produce. Regulations and policies like this are normally set by a state entity (Public Utility Commission/Public Service Commission) and/or local electric utility and are not appropriate for zoning codes.	

Limits on Electricity Consumption	
The code does NOT include limits on where a solar PV system's energy is consumed.	
Code Language	Section:
N/A	
Reviewer Comments	

It is not a best practice to include limits on where a solar energy system's electricity can be consumed. Regulations and policies like this are normally set by a state entity (Public Utility Commission/Public Service Commission) and/or local electric utility and are not appropriate for zoning codes.

Discretionary Review Process

The code does NOT identify a discretionary review process for accessory use solar PV.

Code Language

Section:

N/A

Reviewer Comments

It is not a best practice to have a discretionary review process for accessory use solar PV. This has the potential to be an onerous and/or subjective process for roof-mounted solar energy systems and could increase a project's timeline and costs. Roof-mounted systems should be an allowed or by-right use and only need to go through the building permit process to ensure compliance with applicable building and electrical codes.

Additional Notes

As it is written, the ordinance encompasses provisions that encourage and facilitate the development and utilization of solar energy systems throughout the jurisdiction. By including the recommended edits in this review, the ordinance will demonstrate a comprehensive and forward-thinking approach towards addressing solar energy. Please see [Best Practice Guidance for Solar and Zoning - Accessory Use](#) for additional recommendations.

I, Steven T. Noble as Mayor of Kingston, NY have received the zoning review and read its findings.

Signature: 

Date: 8/3/23

Please note that this review is not an endorsement or recommendation for changing and/or updating the zoning code. This is an informational review only.

If the local government has clarifying comments, please provide them in a memo to the SolSmart team.



To: Kingston Zoning Working Group zoningworkinggroup@kingston-ny.gov

From: City of Kingston Conservation Advisory Council, Chair, Emilie Hauser *Emilie Hauser*

Copy: Suzanne Cahill, Bartek Starodaj, Climate Smart Kingston Commission, and Mayor Noble.

Date: November 13, 2024

Re: Renewable Energy in the Form Based Code

In 2023, the City of Kingston received a Bronze designation from the U.S. Department of Energy's [SolSmart](#) program for encouraging the growth of clean, affordable solar energy at the local level. Attached is the Review conducted by SolSmart and signed by Mayor Steven T. Noble on August 3, 2023.

The Review indicated two code sections that "need improvement." The Conservation Advisory Council is informing the Kingston Zoning Working Group and requesting that these be remedied during the review and update process.

1. Roof-mounted Solar Height (page 2)

Code Language: Section: 405.5.B Transect District Dimensional Standards Summary

It is best practice to explicitly exempt roof-mounted solar energy systems from district height requirements. The Review provides suggested language.

2. Ground-mounted Solar Lot Coverage/Impervious Surface (page 4)

Code Language: Section: 405.5.8 Transect District Dimensional Standards

If ground mounted solar PV systems are over pervious surfaces such as grass and native vegetation, then the system should be exempt from lot coverage and impervious surface requirements. The Review provides suggested language.

Renewable Energy Systems: The CAC is investigating whether the Form Based Code adequately addresses Large-Scale Renewable Energy Systems, particularly for standards for Large-Scale Solar/Photovoltaics. This memo serves to inform the Working Group that we will be corresponding in the future about this issue.

Section 405.2 the Form Based Code defines both large-scale¹ and small-scale² renewable energy systems.

¹ RENEWABLE ENERGY SYSTEM (LARGE-SCALE)

Renewable energy systems that exceed the limits for a small-scale renewable energy system established in Sec 405.21.O. Large-scale renewable energy systems may produce renewable energy for public or private entities.

² RENEWABLE ENERGY SYSTEM (SMALL-SCALE)

Renewable energy systems that have limited impacts on surrounding properties and uses, and are intended to supply renewable energy to an individual building, or contribute to block-scale resiliency efforts. See Sec 405.21.O.

Standards for small-scale systems are covered under Section 405.21 Supplemental Use Standards: 405.21 O. However, standards for large-scale systems are not provided under Section 405.21. The CAC is researching whether there should be specific standards for large-scale systems.

Thank you for your attention to these matters. Please let us know if you need more information or would like us to attend one of your meetings.

Attachment: SolSmart Review 8/3/2023