

Don't Regulate Rooftop Solar Without Compelling Cause



Regulation of rooftop solar energy systems through municipal zoning ordinances results in fewer people powering their homes and businesses with clean, safe, renewable energy. Common arguments for regulation are not compelling.

Introduction

Pennsylvania municipalities are not required to regulate the installation and operation of rooftop solar energy systems. A municipality may treat a rooftop solar array the same as an electric heat pump—as an accessory to a residential dwelling or commercial building that is not subject to local zoning regulations.

Generally, there is no good reason to regulate rooftop solar energy systems. Municipalities should carefully review their assumptions and the facts before changing their zoning ordinances to regulate rooftop solar. If a municipality has already enacted regulations, there are compelling arguments to remove them.

Ground-mounted systems are a different matter: It likely makes sense for a municipality to subject these systems to the same basic regulations (such as setback requirements) that govern other accessory structures.

This guide outlines the harm caused by regulating rooftop solar and refutes the common arguments made in favor of regulation. If, however, you are *still* intent on regulation, see the guide [Zoning for Non-Commercial Solar](#).

Rebutting Arguments for Regulation

Opponents of rooftop solar usually argue for regulation or outright prohibition of rooftop solar with concerns about glare, aesthetics, or historic preservation. This section explains why those concerns are not well-founded.

Glare Is Not a Problem

Some claim that solar panels produce serious glare that can be a nuisance for neighbors and passersby.

Science doesn't back this up. Solar panels actually [reflect less light than other common surfaces like steel, glass, and water](#) (after all, the whole point of solar panels is to capture sunlight, not reflect it). If a municipality does not regulate glass surfaces on buildings—and almost none do—why would it regulate solar panels?

Furthermore, the minimal light reflected by most rooftop solar panels occurs at a height and angle of generally no consequence to neighbors. To see any glare at all, a neighbor would have to be at least [one story above the panels](#).

These resources explain in more detail why glare from solar panels is largely a non-issue:

- [Assessing Rooftop Solar PV Glare in Dense Urban Residential Neighborhoods](#)
- [PV Systems: Low Levels of Glare and Reflectance vs. Surrounding Environment](#)
- [Evaluation of Glare Potential for Photovoltaic Installations](#)

Aesthetics Are Not an Issue

Some fear that solar panels will ruin the look of their communities. But how one feels about the look of solar panels is a matter of personal taste that varies greatly with the individual. What one person sees as an ugly pockmark on their charming neighborhood, another person sees as an attractive roof adornment, and someone else views as a smart symbol of hope for a safer, cleaner, more sustainable future. It is highly subjective with no single view predominating.

Historic Preservation Is Not Hampered

Some believe solar panels are incompatible with historic preservation. However, according to the [National Trust](#)

[for Historic Preservation](#), a leading advocate for historic preservation:

In many cases, **historic buildings, structures, and sites can be preserved while also accommodating solar energy installations.** Indeed, as the need for renewable energy systems increases, technology evolves, political pressure to remove regulatory barriers mounts, and logistical problems are resolved, **precluding the installation of solar energy systems may become indefensible** [emphasis added].

The Trust's "[Design Guidelines for Solar Installations](#)" outlines best practices for incorporating solar panels into a building while maintaining its historic character. To ensure that rooftop solar installations on historic buildings follow these best practices, a municipality can incorporate these guidelines into the ordinance that designates and regulates historic districts (i.e., a provision could state that rooftop solar panels are allowed in the historic district as long as they meet certain design and installation criteria).

(Buildings being preserved in a certain historical state specifically for educational purposes, rather than being actively used as homes or businesses, may bring other considerations into play.)

Negative Impacts of Regulating Solar

Regulating solar energy systems adds burdensome red tape that makes it more difficult, time-consuming, and [expensive](#) for people to make the switch from fossil fuels to clean, renewable energy—leading to fewer people taking that action. This has many negative impacts.

Natural Disasters

Climate change—fueled by greenhouse gas emissions from fossil fuels—is [already wreaking havoc](#), contributing to natural disasters such as [severe storms](#), [prolonged droughts](#), and [raging wildfires](#). In addition to [killing people and destroying communities](#), these disasters take a [massive economic toll](#). Mitigating the worst of these impacts and ensuring a livable planet for future generations

will [require a rapid transition](#) to emission-free energy sources, including rooftop solar.

Air and Water Pollution

When rooftop solar replaces fossil fuels, it saves lives by protecting the air we breathe and water we drink.

In addition to releasing greenhouse gases like methane and carbon dioxide, coal and natural gas production and use [pollutes the air](#) with [mercury](#), [lead](#), [particulate matter](#), and other substances damaging to human health. These pollutants are linked to chronic respiratory diseases, impaired childhood development, and heart problems. A [2018 study](#) found that emissions from coal-fired power plants kill hundreds of people and cause tens of thousands of asthma attacks each year, resulting in more than 25,000 missed work and school days. Extracting and transporting fossil fuels also [pollutes waterways](#) people rely on for drinking and recreation.

Reliability

As a decentralized source of energy, rooftop solar is not subject to disruption due to the failure of a transmission line or the grid due to natural disaster or sabotage. It is not dependent on stable international trade or the production of fuels in distant facilities vulnerable to catastrophe. Powering a home or business with solar panels increases overall reliability and allows for energy independence.



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