



## MEMORANDUM

TO: Village of Long Grove Planning Commission & Zoning Board of Appeals  
FROM: JAMES M. HOGUE, Village Planner  
DATE: March 31, 2020  
RE: Public Hearing; Modification of Alternative Energy Source (AES) regulations

The PCZBA reviewed the revised draft of the AES regulations at the March 3<sup>rd</sup> regular meeting. The revisions included the recommendations\discussion per the joint VB\PCZBA Meeting in January.

The PCZBA also requested additional revisions to the proposed AES regulations. These have been summarized by the by the Village Attorney as follows;

### Summary of Revisions:

- Added language to further describe and clarify aesthetic and color standards for building mounted SES.
- Decommissioning requirements:

Added language relating to the end-of-life decommissioning plan requirements and an owner's obligation to update the plan upon request of the Village. This change was made in both the SES and GES sections.

Revised to clarify that partial abandonment of a system will trigger the owner's obligation to decommission and remove the abandoned components. This change was made in both the SES and GES sections.

No changes were made to the provisions relating to disposal of system components at end-of-life. The PCZBA reviewed these provisions in light of the Board's comments but did not wish to recommend changes.

The attached draft AES regulations contain the revisions as summarized above.

The PCZBA requested more information with regard to the issue of a maximum size of ground mounted SES systems (i.e. establishing an absolute cap on the size of ground-mounted AES).

To a certain extent the proposed regulations are self-enforcing in relation to this issue (lot coverage, set-back, maximum power generation capacity, etc.) but do not establish an absolute cap. The PCZBA asked if and how other jurisdictions address this issue.

Additionally, the PCZBA discussed the possibility of screening requirements for roof mounted SES's and in particular, screening for SES mounted on accessory structures. As an accessory structure is limited to 15' in height, (as opposed to 35' for principal structure) and are generally lower in height, they might be more visible at ground level. Consideration of additional screening may be appropriate for these systems. The PCZBA requested additional information on this topic as well.

The PCZBA also discussed "micro-grids" at the March 3<sup>rd</sup> Meeting and the possibility of a solar powered subdivision. It was determined that matter could be addressed as part of a PUD application. Crafting regulations for an unknown scenario is difficult and may not address all issues associated with such a proposal.

Staff reviewed the regulations (or lack thereof) for 11 other communities. See the attached "SOLAR AES REGULATIONS - OTHER COMMUNITIES" for the communities reviewed and a brief overview of their regulations. Regulations of other communities have been attached as appropriate.

Of those reviewed, three (Barrington, Barrington Hills and Lake Zurich) have not adopted any sort of AES regulations.

Kildeer, Hawthorne Woods and Deer Park have adopted very similar regulations which only allow building mounted solar AES panels on the principal structure (solar shingles are allowed on principal and accessory structures in HW). These regulations are attached for reference by the PCZBA. Hawthorne Woods and Deer Park make provisions for solar easements to protect the sky space of a solar collector and keep obstructions from blocking sunlight to the solar collector. Screening is not mentioned in either ordinance nor is a maximum amount of roof coverage for solar panels.

Vernon Hills and Lake Forest only allow solar systems for heating & cooling applications as opposed to power generation. Vernon Hill does require complete screening of these systems.

Highland Park only allows wind energy systems; either building or ground mounted.

Lake Bluff allows both a building mounted and ground mounted solar AES's with ground mounted systems being considered as a special use. No screening or maximum size limit is established for such uses. See attached regulations.

Wadsworth allows both building mounted and freestanding solar AES's in any zoning district. Building mounted systems may be located on a principal or accessory structures. No maximum size limitation is placed on any system except that it counts toward maximum lot coverage. No screening is required and solar fields may be allowed as a principal use (utility solar). See attached regulations.

## CONCLUSIONS

Of the 11 communities reviewed only two (Wadsworth and Lake Bluff) allow ground mounted solar systems. Neither of these has screening requirements or an absolute cap on the size of such a facility. Applicable bulk regulations, such as lot coverage do apply.

Other communities only allow a roof mounted solar AES panels on a principal structure and accessory structures. Some limit such systems to principal structures only, unless integrated into the accessory structure (i.e. solar shingles). No maximum roof coverage nor additional screening is spelled out in these regulations.

In an effort provide some guidance to the PCZBA staff also researched “Best Practices” for solar energy systems. The following excerpt was found from a model ordinance in the state of Georgia with regard to screening.

### *Visual Buffer & Fencing (excerpt from Georgia Model Ordinance)*

*A solar ordinance may require a visual buffer or fencing for aesthetic and safety reasons. There is no single Best practice regarding visual buffers, and existing solar ordinances offer a wide variety of standards ranging From reasonable to burdensome and flexible to rigid. This is because the need, ability, and means to protect the visual character of a community differs greatly on a case-by-case basis.*

*In requiring a visual buffer, the goal is to shield a solar energy system from the public eye to ensure that the system does not impact the community culture. This is most pressing in residential zoning districts or along scenic view sheds. However, completely shielding the entire solar energy system from view is not always the best option. Allowing views of the system can help the community become familiarized with solar energy and its benefits.*

*In some cases, such as where residences are elevated high above a system, building a complete visual buffer is impossible. Visual buffers can also simply be unnecessary. For example, the view of a solar energy system will likely not disrupt the character of a commercial or industrial zoning district and they are generally unnecessary to shield glare from a system.*

*Visual buffers can take a variety of forms. Existing mature tree growth, vegetation, and natural landforms may provide a sufficient buffer, and leaving them in place minimizes the impact of the solar energy system on the environment. Any vegetative visual buffers can also mitigate stormwater runoff and provide wildlife habitat.*

*However, it can be difficult for a zoning authority to accurately enforce standards for vegetative visual buffers—whereas fences and earth berms can completely and immediately obscure the view of a solar energy system, vegetative buffers take time to grow into place and likely provide more of a screen than a total obstruction of the view.*

Overall the proposed AES regulations for the Village are consistent with the “basics” of other regulations reviewed and far more comprehensive than most.

Staff unable to find an absolute cap on the size of ground-mounted AES in the regulations reviewed or “best practices” research. Typically the “bulk” regulation (i.e. lot coverage, set-back) and maximum power generation capacity on the system are used to address the size of a ground mounted facility.

Should you have any questions or concerns feel free to contact me.