

INCORPORATING ENERGY STORAGE USE INTO SHUTESBURY ZONING

Recommended by the Planning Board Following May 9, 2022 Public Hearing

AMEND USE TABLE

Add new categories under “ENERGY AND UTILITIES”:

Use	RR	FC	TC	LW	Reference
Principal Use of Energy Storage System” (ESS)	N	N	N	N	3.3-7
Small-Scale Ground Mounted Solar Electric Installation with Accessory Use Energy Storage System	SP-P	SP-P	SP-P	N	3.3-7
Large-Scale Ground Mounted Solar Electric Installation with Accessory Use Energy Storage System	N	SP-P	N	N	3.3-7
Small Wind Energy System with Accessory Use Energy Storage System	SP-P	SP-P	SP-P	SP-P	3.3-7

ADD footnotes:

For Small and Large Scale Ground Mounted Solar Electric Installations, add footnote:

For Small and Large Scale Ground Mounted Solar Electric Installations that include an accessory use Energy Storage System (ESS), the requirements of the ESS bylaw, 3.3-7, must be met concurrently within the same special permit in order for a Ground Mounted Solar Electric Installation permit to be granted. If an accessory ESS is later proposed, the previously approved special permit must be modified to include the accessory use ESS and must meet the requirements of Section 3.3-7.

For Small Wind Energy Systems, add footnote:

For Small Wind Energy Systems that include an accessory use Energy Storage System (ESS), the requirements of the ESS bylaw, 3.3-7, must be met concurrently within the same special permit in order for the Wind Energy System permit to be granted. If an accessory ESS is later proposed, the previously approved special permit must be modified to include the accessory use ESS and must meet the requirements of Section 3.3-7.

AMEND DEFINITIONS

Energy Storage System (ESS) shall mean any mechanical, thermal, electrical, chemical, electrochemical or other device that is operated to store energy for use in homes, businesses or government; or for use by the utility grid as a source of energy or a backup system.

Commercial Energy Storage System (CESS) shall mean energy storage system that is operated primarily for distribution of energy to the utility grid or where more than 75% of the stored energy is distributed monthly for off-site use.

On-site Energy Storage System shall mean an energy storage system that is operated as an accessory use, and which provides energy in support of the principal use, and does not sell or distribute more than 25% of the energy stored in a given month for off-site use.

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**ADD UNDER SECTION 3.3 “ACCESSORY USES AND STRUCTURES”
NEW SECTION 3.3-7 Energy Storage Systems**

3.3-7.1 Purpose

The purpose of this bylaw is to facilitate and appropriately regulate energy storage systems: (a) by providing standards for the approval, placement, design, construction, operation, monitoring, modification and removal of such installations that address public safety, protection and preservation of Town infrastructure (including roads), public nuisance, existing residential property and property value, impacts upon environmental, scenic, and historic resources; (b) by providing adequate financial assurance for the eventual decommissioning of such installations; and (c) by protecting large contiguous blocks of forest back-land, wetlands, and drinking water supplies.

3.3-7.2 Applicability

This bylaw applies to Energy Storage Systems (ESS) designated in the Energy and Utilities section of the Use Table. For energy generation installations that include an ESS, the special permit requirements or prohibitions of the energy generation use associated with the ESS shall apply to the ESS and all requirements of this section must also be met for a special permit to be granted.

A. On-site Energy Storage System. An ESS that is: 1) accessory to an existing Residential use, Business or Community use as listed in the Use Table; and provides energy in support of the principal use; and does not sell or distribute more than 25% of the energy stored in a given month, shall be permitted as of right and does not need to comply with the special permitting requirements of this Section 3.3-7.2. An ESS for on-site usage shall require a building permit and/or electrical/wiring permit as appropriate and a site plan review from the Zoning Board of Appeals. An on-site ESS shall be located within fifty feet of the generation source and shall require a buffer of 25 feet from forested land.

B. Energy Storage System as Principal Use.

An ESS which is a principal use is prohibited under this section and any other section of this zoning bylaw.

C. Commercial Energy Storage System (CESS) as Accessory Use To Energy Generation

1. An ESS that is operated primarily for distribution of energy to the utility grid or where more than 75% of the stored energy is distributed monthly for off-site use shall be considered to be a Commercial ESS (CESS) and all requirements of this section must be met for a special permit to be granted and being an accessory use to an energy generation facility.
2. A CESS shall be sized to accommodate only the energy generated on the same parcel. Design and operation shall not accommodate off-site generated energy.
3. A CESS that is accessory use to Small or Large Scale Ground Mounted Solar Electric Installations shall be located within the energy generation installation OR within 100 feet of energy generation installation. A CESS that is accessory to Small Wind Energy Systems shall be located within 100 feet of energy generation installation. To mitigate damage resulting from a fire, a Commercial ESS shall maintain a buffer of 50 feet from forested land.

3.3-7.3 General Requirements:

An ESS shall comply with the requirements of the permitted primary energy generation use listed under the Energy and Utilities heading in the Use Table and found elsewhere in this zoning bylaw and with the requirements of this section.

3.37-4 Required Documents

1. A CESS shall comply with the Financial Surety provisions as outlined in Section 8.10-4.
2. A CESS shall provide proof of additional liability insurance adequate to address costs associated with possible fires, explosions or water contamination, as identified in the Hazard Mitigation Analysis.

3.3-7.5 Safety and Environmental Standards

A. Required Documents for a CESS shall include:

1. A site specific Hazard Mitigation Analysis conducted, at the applicant's expense by a consultant chosen by the Planning Board.
2. The owner or operator of the CESS shall develop a written emergency response plan to be provided to Planning Board that is consistent with the findings and recommendations of the Hazard Mitigation Analysis and is approved by the Fire Chief and the Emergency Management Director. The emergency response plan shall include the sequence of operations relative to the ESS shutdown and emergency response intervention.
3. Material Safety Data Sheets for batteries and electrical components, and for fire suppression chemicals that would be used in the case of a fire at a CESS
4. The owner or operator of the CESS shall submit operation and maintenance plans for regular inspection, servicing, repair and renovation of the CESS
5. A copy of the project summary, electrical schematic, and site plan to the Planning Board, Shutesbury Fire Chief and the Emergency Management Director.
6. Fire and explosion prevention and mitigation information including venting system operation; location of detectors and types of detectors/sensors including manufacturer and model, accuracy, and sensitivity; suppression system design, including type of agent, system layout, application rate, source.
7. Design specifications for:
 - a. Energy storage units including cells, modules, and rack systems including manufacturer and model and unit levels of storage cells; pertinent UL test data.
 - b. Energy storage containers including but not limited to the general physical layout relative to doors, access panels, vents; interior layout of cabinets, racks, ductwork, compartmentation; ventilation system; construction materials;
 - c. Exterior of containers including spacing between containers and the specifications of structural supports/foundations for the containers.

B. Emergency Services

1. To ensure that local first responders are prepared for emergencies related to the CESS, the owner or operator shall arrange for and pay all the expenses for annual training of Shutesbury fire, police, and emergency management personnel, as designated by the town to respond to a CESS- related emergency. An annual payment, in an amount approved by the Fire Chief and Emergency Management Director, to cover all expenses of annual training above shall be due to the town by July 1 of each year; unspent funds will be credited to the following year.

2. In the case of an emergency related to the CESS, the operator shall provide the Town of Shutesbury with an emergency response team, at the operator's expense, that has the necessary capacity, equipment and training to undertake the requirements of the emergency response plan.
3. All means of shutting down a CESS shall be clearly marked.
4. Spacing of energy storage units and other fire prevention installation measures shall be designed and documented that follow current safety-related best practices to mitigate thermal runaway among energy storage units.
5. The owner or operator of a CESS shall identify a responsible person for public and governmental inquiries throughout the life of the installation. Updated contact information shall be provided to the Town Administrator, Fire Chief, Police Chief, and the Emergency Management Director annually, no later than 30 days after the beginning of the fiscal year or within 14 days of any contact personnel or information changes. Contact information shall include the contact's name, role in relation to the CESS, email and work phone number. At least one 24 hour/7 day phone number shall be provided for emergencies.
6. Onsite water storage shall be available for firefighting adequate to the needs to mitigate thermal runaway at a CESS as indicated in the hazard mitigation analysis.

C. Environmental Mitigation

1. Use of per-and polyfluoroalkyl substances (PFAS) for fire suppression at an ESS is prohibited
2. The direct venting of noxious gases into the environment from containers or storage units, without filtration or containment, is prohibited.
3. Contaminated water runoff from firefighting and heat containment efforts related to a CESS shall require onsite water containment utilizing impervious structures to prevent or significantly minimize water infiltration into the soil to protect underlying or adjacent water systems.
4. To mitigate the risk of water contamination in the case of emergency and in particular risks to public and private water supplies, an ESS shall comply with Section 9. 3-2 B 8A of the Shutesbury Zoning Bylaw. Unless waived by the Planning Board, a CESS shall be sited no less than 400 feet from the nearest water well.

D. Noise

The noise produced from heating or cooling systems for an ESS, either episodic or continual, shall not extend beyond the lot lines nor be a nuisance.

3.3-7.6 Reporting

In addition to all reporting requirements necessary for a special permit related to the principal use, a CESS shall have the following reporting requirements.

- A. The owner or operator of a CESS shall submit annually to the Select Board, Planning Board, Fire Chief, Emergency Management Director, Building Commissioner, Board of Health and Conservation Commission a report demonstrating and certifying compliance with the operation and maintenance plans, the emergency plan, and other requirements of this Section 3.3-7 requested by the Planning Board no later than 45 days after the end of the fiscal year. This report shall also include information on the maintenance completed during the course of the year, and any safety-related incidents and corrective measures taken due to CESS performance outside of operational norms.
- B. The owner or operator of a CESS shall annually report the amount of electricity stored and transferred by the ESS to the Select Board and the Planning Board no later than 45 days after the end of the fiscal year.
- C. Evidence of compliance with 3.3-7.2 (C2).