

Chapter 1 Part 2 Definitions

1.2.2 Definitions

BIODIGESTER - An alternative energy system that is an accessory or principal use on a property and that utilizes anaerobic digestion for the primary purpose of producing energy. Mechanisms and processes that are part of the digester, including but not limited to separators and refining equipment, produce biogas, which is used for production of electricity and pipeline-quality natural gas. A biodigester may refine digestate as a secondary function to produce soil amendments, fertilizer, and other similar products.

ANAEROBIC DIGESTION – A process of controlled decomposition of biodegradable materials under managed conditions where oxygen is absent, at temperatures suitable for naturally occurring bacteria species, which convert feedstock to a methane-rich biogas and whole digestate.

DIGESTATE –Solid or liquid substances that remain following digestion of feedstock in a biodigester.

FEEDSTOCK –Organic material or waste used by a biodigester to produce biogas.

Chapter 4 Part 2 Conditional Uses

4.2.1 Intent and Applicability

Certain land uses due to their extent, nature of operation, limited application, or relationship to natural resources are considered as exceptional cases. The uses listed in this Part may be permitted in certain districts by Conditional Use Permit following a public hearing before the Board of Zoning Adjustment provided such uses will not have an adverse effect on neighboring property, are not in conflict with the goals and plan elements of the Comprehensive Plan, the proposed uses are essential to or will promote the public health, safety, and the general welfare in one or more zones, and are in compliance with the listed standards and requirements.

The following uses are subject to the Conditional Use Permit process:

Section	Conditional Use
****	****
4.2.37	Non-emergency Generator and Non-Emergency Alternative Energy Systems, <u>Other than Biodigesters</u>
****	****
4.2.63	<u>Biodigesters</u>

**4.2.37 Non-emergency Generator and Non-Emergency Alternative Energy Systems,
Other than Biodigesters**

4.2.63 Biodigesters

Biodigesters may be permitted in the ~~C-M, M-1, M-2, M-3, and EZ-1~~ zoning district upon the granting of a Conditional Use Permit and compliance with the listed requirements of this Section. For the purposes of this Section, a “residentially-zoned property” is a property in a zoning district listed in Chapter 2, Part 2, of this LDC. For the purposes of this Section, distances shall be measured in a straight line from the nearest structure or building associated with the digester to the nearest property line of the nearest residential use, residentially-zoned property, college, school, institution of learning, religious building, park, playground, community center, hospital, nursing home, or assisted living facility.

A. A biodigester shall be a minimum of ~~1,320~~ **2,640 feet from the nearest existing residential use, residentially-zoned property, college, school, institution of learning, religious building, park, playground, community center, hospital, nursing home, or assisted living facility. This provision ~~shall not~~ **may** be waived or modified ~~in the EZ-1 zoning district to no less than 1,320 feet by the Board of Zoning Adjustment upon consideration of factors including, but not limited to, nearby land uses, scale, capacity, design, operational history of the applicant and of the technology, traffic, noise, odor, appearance, potential risks of pollution, fires, or explosion, and type of feedstock.~~ Residentially-zoned portions of the Ohio River shall not be included in this separation requirement.**

Note to Reviewers: Alternatively, the regulations could include residentially-zoned portions of the Ohio River. The effect would be to create a 1,320’ “buffer” extending out from the river where biodigesters could not be located.

B. Vehicles delivering feedstock to the biodigester shall not be offloaded until they are parked inside a fully-enclosed receiving building, and all doors and windows of the receiving building are completely closed. **All feedstock received shall be processed and introduced into the biodigester within 24 hours of receipt.**

C. No outdoor storage of feedstock, filtering chemicals, or digestate shall take place on the site. All feedstock, filtering chemicals, and digestate shall be stored inside a fully-enclosed building with all doors and windows closed.

D. All bulking, transfer, and pre-treatment of feedstock shall be carried out in an enclosed building maintaining negative air pressure. All feedstock storage and processing shall occur on an impermeable surface with a sealed drainage system. Feedstock shall be stored in enclosed containers or reactor vessels. The building shall have equipment to control the release of objectionable odors, bioaerosols, and microorganisms into the ambient air.

E. All storage and process tanks shall be bermed with a concrete barrier to prevent spills and the bermed area shall have a total capacity of at least 110 percent of the largest tank.

F. D. The biodigester shall be at least 50 feet from a perimeter property line adjacent to a public right-of-way.

G, E. The applicant shall ensure that the noise level at the property line does not exceed 65 dBa. The Board of Zoning Adjustment may require review by an independent noise professional to confirm compliance with this requirement.

H. F. The biodigester shall be screened as a utility substation in accordance with Chapter 10 of the LDC. In addition, a solid fence or wall in compliance with Section 10.4.9 shall be installed around the perimeter of the operational area of the biodigester.

Note to Reviewers: The standard in paragraph F. above is also in the Conditional Use Permit standards for Alternative Energy Systems. For utility substations, Chapter 10 of the LDC requires a 5 to 35-foot buffer area around the perimeter of the property with variable amounts of trees per 100 feet and a 3 to 8-foot tall berm or wall depending on the buffer width and adjacent zoning district.

I. G. The applicant shall submit an ongoing operating plan containing strategies for mitigating odor as part of its application for this Conditional Use Permit. This ongoing plan shall be in a form established by Planning & Design Services, in consultation with the Louisville/Jefferson County Air Pollution Control District (APCD). The applicant shall detail how the facility will comply with District Regulation 1.13 Control of Objectionable Odors in the Ambient Air. Planning and Design Services shall provide APCD with an opportunity to review and comment on said application, including the odor mitigation plan, prior to the Board of Zoning Adjustment's public hearing. APCD shall review, and provide comments on said plan prior to the Board of Zoning Adjustment's public hearing. The odor control plan shall be subject to future changes or amendments, as needed, to implement measures that further address existing and future odor issues.

- J. H. Prior to the operation of a biodigester, the applicant shall submit an emergency response plan to the Louisville Metro Emergency Management Agency/MetroSafe and to the Fire Protection District with jurisdiction, which shall review, provide comments on, and accept said plan prior to the Board of Zoning Adjustment's public hearing.
- K. I. The biodigester shall continually maintain compliance with all applicable federal, state, and local laws and regulations, including but not limited to laws or regulations on building, safety, property maintenance, health and sanitation, fire, electrical, plumbing, mechanical, and other applicable laws.
- L. J. The applicant shall submit a traffic analysis to the agency responsible for transportation planning, which shall review, and provide comments on, and accept said analysis prior to the Board of Zoning Adjustment's public hearing. The traffic analysis shall include information on trip generation, peak hour traffic, trip distribution, haul routes, and other information as may be requested.
- M. The Board of Zoning Adjustment may retain special expert consultants as it deems necessary to provide assistance in the review of proposed biodigesters. Application fees may be established to cover the costs of staff and/or special expert consultant review of requests filed under this section, within any limits established by KRS Chapter 100.
- N. All biogas condensate shall be discharged into a sealed drainage system or recirculated back into the digester. Liquids may be discharged into a sewer only as approved by the Metropolitan Sewer District, or may be taken off-site in a closed tanker.

4.2.42 Potentially Hazardous or Nuisance Uses

M-3 Only:

Distillation of wood and bones

Explosives (when not prohibited by other ordinances) including ammunition, fireworks, nitrating of cotton or other materials, nitrates (manufactured and natural) of an explosive nature, and storage of latter

Exterminating operations where exterminating chemicals or agents are stored

Fertilizer (organic and non-organic), including fish, oils, manure, or peat, except as a by-product of a biodigester

DRAFT