

This document has been prepared as part of the Model Climate Laws Initiative, formerly the *Legal Pathways to Deep Decarbonization Project* (Michael B. Gerrard and John C. Dernbach, eds. Environmental Law Institute [2019]) (LPDD)

Section 1. Title

Biogas Use, Reduction, and Repurposing Model Act for Wastewater Treatment Facilities

Section 2. Definitions

- (a) *Anaerobic digestion* means the process by which sewage sludge is broken down by microorganisms in a controlled environment in the absence of oxygen called an anaerobic digester. During this process, biogas is produced.
- (b) *Anaerobic digester* means a specialized tank or chamber where anaerobic digestion takes place.
- (c) *Biogas* is the gaseous byproduct generated during the anaerobic digestion of organic matter in sewage sludge. This process is facilitated by microorganisms that break down organic matter in the sludge. *Biogas* primarily consists of methane (CH₄) and carbon dioxide (CO₂), with trace amounts of other gases such as hydrogen sulfide (H₂S) and ammonia (NH₃).
- (d) *Biogas collection system* means a system that captures and collects biogas from an anaerobic digester and transfers it to a beneficial use, such as a CHP system.
- (e) *Biogas flow rate* means the volume of biogas that moves through a system per unit of time.
- (f) *Combined heat and power (CHP)* means a technology that simultaneously generates electricity and captures usable heat that is produced during the electricity generation process.
- (g) *Convert or conversion* means taking methane and other natural gas byproducts of waste treatment and compressing those gases to make fuel for use in electricity generation or fuel for vehicles.
- (h) *Existing Large WWTF* means a Large WWTF that began construction before the date of enactment of this Act under a permit issued by the Permitting Authority.
- (i) *Flaring* means the deliberate burning, as a means of abatement or as a safety measure, of unwanted or excess gases during the operation of a WWTF.
- (j) *Large WWTF* means a WWTF having an influent flow rate of at least 5 million gallons per day (MGD).
- (k) *Minimize* means to reduce something to the smallest possible amount.
- (l) *New or Modified Large WWTF* means (i) a Large WWTF that, as of the date of enactment of this Act, has not begun construction under a permit issued by the Permitting Authority, or (ii) an Existing Large WWTF that, on or after the date of enactment of this Act, modifies or alters at least 50 percent of its methane-producing operations.
- (m) *Operator* means the entity and/or the person in charge of a WWTF's operations.

- (n) *Permitting Authority* means the state or local governmental entity(s) with the authority to issue permits or licenses relevant to the safe operation of WWTFs and to enforce the provisions herein.
- (o) *Venting* means the release of gas into the surrounding air using any means including through a stack or a passive release from an open tank.
- (p) *Wastewater flow* means the movement of wastewater through the WWTF from the point of entry to the final discharge or completion of treatment. Wastewater flow is measured by the rate at which a specific volume of wastewater moves through the treatment process.
- (q) *Wastewater flow rate* means the speed at which a volume of wastewater passes through a given point or system, as calculated using the methodology required by the Permitting Authority.
- (r) *Wastewater treatment facility (WWTF)* means any facility that uses active treatment systems to treat water, wastewater, and sewage, regardless of the ownership of the facility.

Section 3. Prohibition of Methane Venting and Flaring for Large WWTFs

A. Prohibition

1. Effective 12 months from the date of enactment, Existing Large WWTFs must minimize venting methane to only trace amounts.
2. Effective 60 months from the date of enactment, Existing Large WWTFs are prohibited from venting and flaring methane.
3. Effective as of the date of enactment, the vent and flare prohibitions of subsection A.2 of this section shall apply to New or Modified Large WWTFs.

B. Exceptions

1. The prohibitions and limitations in subsection A of this section do not apply to emergencies or malfunctions when those events are due to situations beyond the reasonable care and control of the Large WWTF.
2. The prohibitions and limitations in subsection A of this section do not apply to releases directly related to the repair or maintenance of the gas control system.

C. Efficient Flaring

1. Flaring allowed under subsection B of this section shall achieve methane destruction of at least 99 percent by weight.

Section 4. Requirements for Large WWTFs

- A. On and after the enactment of this Act for a New or Modified Large WWTF and within 60 months after the date of enactment of this Act for an Existing Large WWTF, the owner or operator of a Large WWTF must demonstrate to the satisfaction of the Permitting Authority that the WWTF complies with the requirements set forth in subsection B of this section.

B. Requirements for Large WWTFs:

1. Anaerobic Digestion

- a. A Large WWTF shall use anaerobic digestion processes for biosolid treatment.

2. Biogas Utilization

- a. A Large WWTF shall capture biogas produced during anaerobic digestion at a rate that meets or exceeds the biogas capture rate requirements specified in Section 5.

3. Electricity Generation

- a. The captured biogas shall be converted into electricity using a CHP system.
- b. The electricity generated shall primarily be used to meet the Large WWTF's energy needs.
- c. Electricity produced from biogas conversion, including any surplus electricity sold or offered for sale under subsection 4 of this section, shall be exempt from regulations governing the transmission, transport or sale of energy applicable to public power suppliers or public utilities.

4. Biogas or Electricity Surplus Management

- a. Any biogas or electricity generated that exceeds the needs of the Large WWTF shall be routed to an appropriate system designed for processing, storage, sale, or alternative use, in compliance with applicable regulations.

5. Installation of Necessary Equipment

- a. Large WWTFs shall utilize necessary equipment, such as anaerobic digesters, biogas collection systems, and CHP systems, to comply with this Act.
- b. If such necessary equipment is to be installed at an Existing Large WWTF, the owner or operator must submit a design plan for the installation and/or upgrade, certified by a professional engineer, to the Permitting Authority no later than one year before the compliance date in subsection A of this section.
- c. Upon receipt, the Permitting Authority shall review the design plan submitted for a Large WWTF for completeness within 30 days and approve or disapprove the design plan within 120 days.
- d. An amended design plan must be submitted to the Permitting Authority within 90 days of any event that requires a change to a design plan.

Section 5. Compliance with Biogas Capture Rate Determination

A. Upon completion of construction and before operation for a New or Modified Large WWTF and within 60 months from the date of enactment of this Act for an Existing Large WWTF, the owner or operator of a Large WWTF must demonstrate that the facility achieves annual biogas capture to the maximum extent practicable, as determined by the Permitting Authority.

B. The Permitting Authority shall establish the test methods and procedures required for measuring biogas capture rates at a regulated facility.

Section 6. Maintenance and Operation by Operator of a Large WWTF

A. After the date of enactment of this Act, the owner or operator of a Large WWTF shall conduct an Audio, Visual, and Olfactory (AVO) inspection at a frequency required by the Permitting Authority to confirm that all production equipment is operating properly and minimizing unnecessary leaks or releases of methane.

B. As of the date of enactment of this Act, the owner or operator of a Large WWTF shall measure or reasonably estimate the volume of biogas that it vents, flares, or uses for beneficial purposes. A reasonable estimate of the volume shall be based on the expected use of industry-standard equipment.

1. The Permitting Authority shall require the owner or operator to report venting or flaring events that the Permitting Authority deems pose a risk to human safety and the environment.
2. The Permitting Authority may require such additional reporting as it deems necessary.

Section 7. Regulation of Methane

A. Any prohibited release of methane from a Large WWTF on or after the compliance dates set forth in this Act shall be a violation of this state's clean air provisions.

Section 8. Revision to Tax Code

A. The state tax code shall be revised to allow a tax credit to entities owning a Large WWTF for exporting biogas from that facility.

B. The biogas export tax credit is available based on the quantity of surplus volume of biogas exported from the facility to a third party for use. Surplus volume is that quantity of biogas available after the facility uses onsite at least ____ percent of the biogas produced at the Large WWTF.

Section 9. Implementing Regulations

The Permitting Authority may promulgate rules and regulations as necessary and appropriate to implement this Act.

[OPTIONAL ADDITIONAL TEXT RE COMMUNITY INVOLVEMENT]

Section 10. Community Involvement

- A. Within six months from the date of enactment, the Permitting Authority shall establish a WWTF Biogas Community Advisory Committee (hereafter the “Committee”).
- B. The Committee shall be comprised of at least five members, including but not limited to representatives of both residential and commercial user interests, relevant municipal entities or authorities, and other appropriate stakeholders as determined by the Permitting Authority.
- C. The Committee may provide recommendations to owners or operators of Large WWTFs, including but not limited to regarding the disposition of any surplus biogas or electricity, the alignment of energy use decisions with other community needs and priorities, best practices for Large WWTFs to develop plans for soliciting and incorporating community input, and recommended actions for local air quality or other environmental enhancements or mitigation measures.
- D. The Committee may provide recommendations to the Permitting Authority regarding implementation of this Act, including regarding potential technical assistance or funding that may be offered by the Permitting Authority to support Large WWTF conversions, taking into account the socioeconomic and environmental conditions of the community.