



Biogas State Profile: Massachusetts

Biogas Potential

Massachusetts ranks #27 among U.S. states for methane production potential from biogas sources.¹

Currently Massachusetts has 34 operational biogas systems. We see the near term potential for more than 98 new projects to be developed based on the estimated amount of available organic material.

Constructing this many projects would generate \$294 million in capital investment, and create 2,450 short-term construction jobs, 196 long-term jobs, and numerous industry-supporting jobs.

If fully realized, these biogas systems could produce enough electricity to power 11,367 homes (310.7 million kWh) or enough renewable natural gas to fuel 45,116 vehicles.

They would also collectively reduce greenhouse gas emissions by the equivalent of 10.1 trillion tons of carbon dioxide, the same as growing 5.5 million tree seedlings for ten years or the amount 186,470 acres of U.S. American forest sequester each year.²



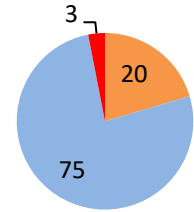
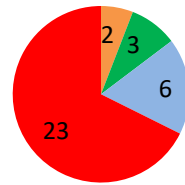
This analysis illustrates the methane generation potential by county from the following biogas sources: landfills; animal manure; wastewater treatment; and industrial, institutional, and commercial organic waste (IIC).



U.S. Energy Rankings

Energy	
Total CO2 Emissions ¹²	Ranks 33 rd in U.S., 1.14% share
Per Capita Energy Consumption ¹³	Ranks 44 th in U.S.
Renewable Electricity Generation ¹⁴	Ranks 35 th in U.S.
Energy Prices Rank ¹⁵	Ranks 3 rd in U.S.

Operational Systems Potential Systems



Food Waste Agriculture Waste Water Landfill

Biogas Systems

Food Waste

Operational food waste biogas systems ³	2
Potential food waste biogas systems ⁴	20

Agriculture

Operational biogas systems on farms ⁵	3
Potential dairy farm biogas systems ⁶	-
Potential swine farm biogas systems ⁷	-

Waste Water

Operational biogas systems at water resource recovery facilities ⁸	6
Potential biogas systems at WRRFS ⁹	75

Landfills

Operational landfill gas systems ¹⁰	23
Potential landfill gas systems ¹¹	3

Feedstocks

Manure

Total Manure Volume ¹⁶	300 thousand gallons per day
Total Dairy Manure ¹⁷	216 thousand gallons per day
Total Swine Manure ¹⁸	13,500 gallons per day
Total Beef Manure ¹⁹	60,500 gallons per day

Food Waste

Total Food Waste Generated ²⁰	1 million tons per year
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Waste Water

Average flow from WRRF's ²¹	68.8 million gallons per day
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* All citations are available on AmericanBiogasCouncil.org.

Massachusetts Green Policies

State RPS ²²	<p>Class I (New Resources): 15% renewable by 2020 and an additional 1% each year thereafter.</p> <p>Class II (Existing resources) 5.3% in 2014 (1.8% renewable and 3.5% waste-to-energy) and 5.5% in 2015 (2.0 renewables and 3.5% waste to energy)</p>
Statutes & Regulations	<p>Net Metering</p> <p>Energy Reduction Plan For State Buildings</p> <p>Fuel Mix and Emissions Disclosure</p> <p>Energy Efficiency First Fuel Requirement (Gas & Electric)</p> <p>Building Energy Code</p> <p>Interconnection Standards</p>
Sustainable Commitments	<p>Green Power Purchasing Commitment</p> <p>Boston University</p> <p>University of Massachusetts</p> <p>Northeastern University</p> <p>UMass Amherst</p> <p>City of Boston</p> <p>City of Northampton</p> <p>Mass DOT</p>
State Funding Opportunities	<p>Residential Renewable Energy Income Tax Credit</p> <p>Energy Efficiency Fund</p> <p>Commonwealth Organics-to-energy Program</p> <p>Renewable Energy Trust Fund</p> <p>Local Option- Energy Revolving Loan Fund</p> <p>Holyoke Gas and Electric- Commercial Energy Efficiency Loan Program</p> <p>Holyoke Gas and Electric- Residential Energy Efficiency Loan Program</p> <p>Green Communities Grant Program</p>

Biogas Companies Located in MA

[CDM Smith](#)
[Harvest Power, Inc.](#)
[Massachusetts Clean Energy Center](#)
[Milton CAT Inc](#)
[Rodman & Rodman PC, CPA](#)
[Skip Shapiro Enterprises, LLC](#)
[Vanguard Renewables LLC](#)
 +Dozens More

[Visit www.AmericanBiogasCouncil.org](http://www.AmericanBiogasCouncil.org) for the full Biogas Industry Directory

Massachusetts Biogas Resources:

[Mass. Gov- Energy and Environmental Affairs](#)

It is the official Website of the Commonwealth of Massachusetts. The site has detailed information about biogas, anaerobic digestion, and operational facilities in Massachusetts. It also pertains information about the industry as a whole.

[Feed Resource Recovery Inc.](#)

Founded in Boston, Mass. in 2007, Feed Resource Recovery has designed and implemented a groundbreaking Zero Waste solution for the food industry

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- ¹ <http://www.nrel.gov/docs/fy14osti/60178.pdf>
 - ² (See ABC Biogas Potential Calculator)
 - ³ (See ABC Food Waste Digester Excel Spreadsheet)
 - ⁴ (See ABC Biogas Potential Calculator)
 - ⁵ <http://epa.gov/agstar/projects/index.html>
 - ⁶ http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_State_Level/Massachusetts/st25_1_017_019.pdf
(Farms with 500 to 999 milk cows)
 - ⁷ http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_State_Level/Massachusetts/st25_1_020_023.pdf
(Farms with 5,000 or more hogs)
 - ⁸ <http://resourcerecoverydata.org/>
 - ⁹ (See Above)
 - ¹⁰ <http://www.epa.gov/lmop/projects-candidates/operational.html>
 - ¹¹ <http://www.epa.gov/lmop/projects-candidates/candidates.html>
 - ¹² <http://www.eia.gov/state/rankings/?sid=CA#series/226>
 - ¹³ <http://www.eia.gov/state/?sid=CA#tabs-5>
 - ¹⁴ (See Above)
 - ¹⁵ <http://www.eia.gov/state/rankings/#/series/31>
 - ¹⁶ (See EQIP State Matrix Livestock Inventory)
 - ¹⁷ (See Above)
 - ¹⁸ (See Above)
 - ¹⁹ (See Above)
 - ²⁰ <http://www.recyclingworksma.com/food-waste-estimation-guide/>
 - ²¹ <http://resourcerecoverydata.org/>
 - ²² <http://programs.dsireusa.org/system/program/detail/479>

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