

Biogas State Profile: Maryland

Biogas Potential

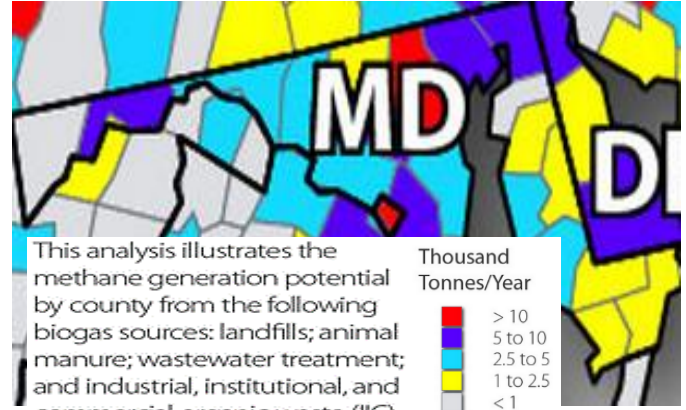
Maryland ranks #28 among U.S. states for methane production potential from biogas sources.¹

Currently Maryland has 25 operational biogas systems. We see the potential for more than 38 new biogas projects to be developed.

Constructing this many projects would generate \$114 million in capital investment, and create 950 short-term construction jobs, 76 long-term jobs, and numerous industry-supporting jobs.

If fully realized, these biogas systems could produce enough electricity to power 164,477 homes (1.9 billion kWh) or enough renewable natural gas to fuel 275,820 vehicles.

They would also collectively reduce greenhouse gas emissions by the equivalent of 9 trillion tons of carbon dioxide, the same as growing 35 million tree seedlings for ten years or the amount 1,169,190 acres of U.S. American forest sequester each year.²



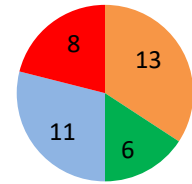
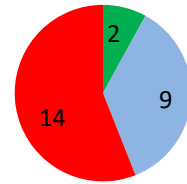
U.S. Energy Rankings

Energy	
Total CO2 Emissions ¹²	Ranks 34 th in U.S., 1.3% share
Per Capita Energy Consumption ¹³	Ranks 40 th in U.S.
Renewable Electricity Generation ¹⁴	Ranks 34 th in U.S.
Energy Prices Rank ¹⁵	Ranks 15 th in U.S.

Operational Systems Potential Systems

Biogas Systems

Food Waste	
Operational food waste biogas systems ³	-
Potential food waste biogas systems ⁴	13
Agriculture	
Operational biogas systems on farms ⁵	2
Potential dairy farm biogas systems ⁶	6
Potential swine farm biogas systems ⁷	-
Waste Water	
Operational biogas systems at water resource recovery facilities ⁸	9
Potential biogas systems at WRRFS ⁹	11
Landfills	
Operational landfill gas systems ¹⁰	14
Potential landfill gas systems ¹¹	8



■ Food Waste ■ Agriculture ■ Waste Water ■ Landfill

Feedstocks

Manure	
Total Manure Volume ¹⁶	44.6 million gallons per day
Total Dairy Manure ¹⁷	900 thousand gallons per day
Total Swine Manure ¹⁸	31,500 gallons per day
Total Broiler Manure ¹⁹	43.1 million gallons per day
Total Beef Manure ²⁰	451 thousand gallons per day

Food Waste	
Total Food Waste Generated ²¹	657,360 tons per year

Waste Water	
Average flow from WRRF's ²²	30.2 million gallons per day

Maryland Green Policies

* All citations are available on AmericanBiogasCouncil.org.

Maryland is active in both sustainability and waste diversion.

As part of its legislatively mandated Green House Gas Reduction Plan, the State has established long-term recycling and waste diversion goals of 80% and 85%, respectively.²³

Former Maryland Gov. Martin O'Malley issued an executive order affirming statewide waste reduction goals, directing state government to increase recycling, composting and waste diversion and limiting new or expanded landfills to help drive innovation and achieve those goals.²⁴

State RPS ²⁵	20% by 2022, Includes AD
(RGGI) Green House Gas Bans ²⁶	25% Reduction of GHG Relative to 2006 Levels by 2020
RGGI Statutes & Regulations	Maryland CO2 Budget Trading Program Rules
Maryland's Source Reduction Credit System ²⁷	Maryland created a source reduction credit system, as an incentive for boosting waste diversion rates in 23 counties.
Waste Diversion Rate ²⁸	Maryland State achieved a waste diversion rate of 48.9% in 2012.
Recycling Rate ²⁹	In 2012, Maryland residents and businesses recycled 45.4% of the municipal solid waste.
Sustainability Commitments	EmPower Maryland ; EmPower Clean Energy Communities ; Smart, Green, & Growing ; Clean Bay Power ; Clean Cities Coalition
MD State Regulations	The MD Healthy Air Act of 2006 , The Greenhouse Gas Emissions Reduction Act of 2009 , Maryland Energy Efficiency Standards Act of 2007 , The Clean Energy Incentive Tax Credit of 2006 , Maryland State Permits Guide
Funding Opportunities	Clean Energy Production Tax Credit ; MEA EmPOWER Maryland Combined Heat & Power Grant Program

Biogas Companies Located in MD

[BioEarthh Energy](#)

Capital Biogas LLC

[US Composting Council](#)

+ Dozens More

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

Maryland Biogas Resources

[Maryland Energy Administration](#)

MEA's programs and policies help lower energy bills, fuel the creation of green collar jobs, address environmental and climate impacts, and promote energy independence.

[Organics Material Exchange](#)

This site allows organics waste producers and users on the Central Coast to exchange materials.

[Maryland Recycling Network](#)

The Maryland Recycling Network (MRN) is an active group of professionals and the public who are passionate about building sustainable recycling programs. We see waste as a resource

[Maryland Recycles](#)

Find companies that will pick up recyclable material, and learn how to reduce your waste management costs and help the environment.

Mid-Atlantic Bioenergy Council
1211 Connecticut Ave, NW
Suite 650
Washington, DC 20036-2701
(202) 640-6595
team@mabec.org

- 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/Maryland/st24_017_019.pdf](http://www.agcensus.usda.gov/Publications/2012/Full_Report/Vol_1_Chapter_1_State_Level/Maryland/st24_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/Maryland/st24_1_020_023.pdf](http://www.agcensus.usda.gov/Publications/2012/Full_Report/Vol_1_Chapter_1_State_Level/Maryland/st24_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 (See Above)
- 21 (see ABC Biogas Potential Calculator)
- 22 <http://resourcerecoverydata.org/>
- 23 http://climatechange.maryland.gov/site/assets/files/1392/mde_ggrp_report.pdf
- 24 <http://news.maryland.gov/mde/2015/01/13/governor-smalley-issues-executive-order-to-drive-a-zero-waste-future-for-maryland/>
- 25 <http://programs.dsireusa.org/system/program/detail/1085>
- 26 http://www.mde.state.md.us/programs/Air/RGGI/Documents/www.mde.state.md.us/assets/document/air/RGGI_Facts.pdf
- 27 [http://www.mde.state.md.us/assets/document/Source%20Reduction%20Credit%20Reporting%20System%20\(Overview\).pdf](http://www.mde.state.md.us/assets/document/Source%20Reduction%20Credit%20Reporting%20System%20(Overview).pdf)
- 28 <http://www.mde.state.md.us/programs/Land/RecyclingandOperationsprogram/CountyCoordinatorResources/Documents/'13%20MSWMR.pdf>
- 29 http://www.mde.state.md.us/programs/Marylander/Documents/Zero_Waste_Plan_Draft_12.15.14.pdf

Mid-Atlantic Bioenergy Council
1211 Connecticut Ave, NW
Suite 650
Washington, DC 20036-2701
(202) 640-6595
team@mabec.org