



**AMERICAN  
BIOGAS  
COUNCIL**

# Biogas State Profile: Ohio

## Biogas Potential

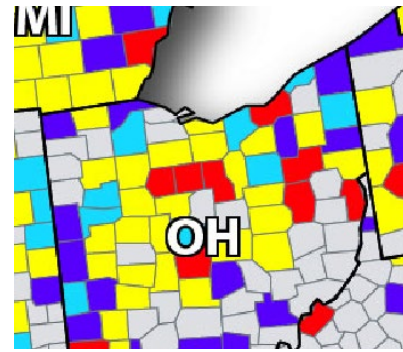
Ohio ranks #5 among U.S. states for methane production potential from biogas sources.<sup>1</sup>

Currently Ohio has 99 operational biogas systems. We see the near term potential for more than 337 projects to be developed based on the estimated amount of available organic material.

Constructing this many projects would generate \$174 million in capital investment, and create 1,450 short-term construction jobs, 116 long-term jobs, and numerous industry-supporting jobs.

If fully realized, these biogas systems could produce enough electricity to power 4,872 homes (138.9 million kWh) or enough renewable natural gas to fuel 20,168 vehicles.

They would also collectively reduce greenhouse gas emissions by the equivalent of 4.6 trillion tons of carbon dioxide, the same as growing 2,500,706 million tree seedlings for ten years or the amount 83,357 acres of U.S. American forest sequester each year.<sup>2</sup>



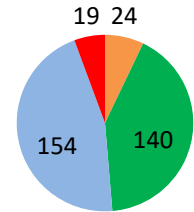
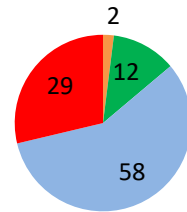
This analysis illustrates the methane generation potential by county from the following biogas sources: landfills; animal manure; wastewater treatment; and industrial, institutional, and commercial organic waste (IIC).  
 Thousand Tonnes/Year  
 Legend:  
 Red: > 10  
 Orange: 5 to 10  
 Yellow: 2.5 to 5  
 Light Blue: 1 to 2.5  
 Grey: < 1

## U.S. Energy Rankings

Energy	
Total CO2 Emissions <sup>12</sup>	Ranks 5 <sup>th</sup> in U.S., 4.13% share
Per Capita Energy Consumption <sup>13</sup>	Ranks 23 <sup>rd</sup> in U.S.
Renewable Electricity Generation <sup>14</sup>	Ranks 45 <sup>th</sup> in U.S.
Energy Prices Rank <sup>15</sup>	Ranks 20 <sup>th</sup> in U.S.

## Operational Systems

## Potential Systems



Legend: Food Waste (Orange), Agriculture (Green), Waste Water (Blue), Landfill (Red)

## Biogas Systems

### Food Waste

Operational food waste biogas systems <sup>3</sup>	2
Potential food waste biogas systems <sup>4</sup>	24

### Agriculture

Operational biogas systems on farms <sup>5</sup>	12
Potential dairy farm biogas systems <sup>6</sup>	41
Potential swine farm biogas systems <sup>7</sup>	99

### Waste Water

Operational biogas systems at water resource recovery facilities <sup>8</sup>	58
Potential biogas systems at WRRFS <sup>9</sup>	154

### Landfills

Operational landfill gas systems <sup>10</sup>	29
Potential landfill gas systems <sup>11</sup>	19

## Feedstocks

### Manure

Total Manure Volume <sup>16</sup>	23.8 million gallons per day
Total Dairy Manure <sup>17</sup>	4.8 million gallons per day
Total Swine Manure <sup>18</sup>	3.2 million gallons per day
Total Broiler Manure	11.3 million gallons per day
Total Turkey Manure	1.3 million gallons per day
Total Beef Manure <sup>19</sup>	3.1 million gallons per day

### Food Waste

Total Food Waste Generated <sup>20</sup>	1,216,490 tons per year
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\* All citations are available on [AmericanBiogasCouncil.org](http://AmericanBiogasCouncil.org).

## Waste Water

Average flow from WRRF's<sup>21</sup> | 13.0 million gallons per day

### Ohio Green Policies

RPS <sup>22</sup>	12.5% Renewable Energy Resources by 2026 12.5% Advanced Energy Resources by 2026
Statutes and Regulations	<a href="#">Net Metering</a> <a href="#">Fuel Mix and Emissions Disclosure</a> <a href="#">Interconnection Standards</a>
Sustainability Commitments	<a href="#">City of Columbus- Green Columbus Fund</a> <a href="#">Ohio University</a> <a href="#">The Ohio State University</a> <a href="#">Cleveland State University</a> <a href="#">Toledo University</a> <a href="#">Miami University</a> <a href="#">Toledo-Lucas Sustainability Commission</a>
State Funding Opportunities	<a href="#">Air-Quality Improvement Tax Incentives</a> <a href="#">Advanced Energy Fund</a> <a href="#">Energy Loan Fund</a>

### Biogas Companies Located in OH

[Arisdyne Systems](#)  
[Clean Fuels Ohio](#)  
[Ohio Department of Development](#)  
[Organic Waste Systems, Inc.](#)  
[Quasar Energy Group](#)  
[Vogelsang USA](#)  
[VW Williams Gas Power Systems Group](#)  
 + Dozens More

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

### Ohio Biogas Resources:

[The Ohio State University Extension](#)  
 Ohio State's extension program provides a comprehensive fact sheet detailing the process of manure becoming energy through anaerobic digestion.

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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/Ohio/st39\\_1\\_017\\_019.pdf](http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_State_Level/Ohio/st39_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/Ohio/st39\\_1\\_020\\_023.pdf](http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_State_Level/Ohio/st39_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 ABC Biogas Potential Calculator)
  - 21 <http://resourcerecoverydata.org/>
  - 22 <http://programs.dsireusa.org/system/program/detail/2934>

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