

WHY BIOGAS?

Biogas systems protect our air, water and soil while recycling organic material to produce renewable energy and soil products. In cities, biogas systems recycle food scraps and wastewater sludge, reducing municipal costs and avoiding transport to disposal sites. In rural areas, biogas systems make agriculture more sustainable and create additional revenue streams for farmers. Since biogas systems prevent greenhouse gases, like methane, from entering the atmosphere, all biogas systems make our air cleaner to breathe and combat climate change, displacing fossil fuels. Biogas systems produce soil products that recycle nutrients, contributing to healthier soils and creating opportunities to eliminate nutrient runoff that pollutes our waterways. Waste management, renewable energy and fuels, clean air, healthy soils and crystal clear waterways—you can get all of this when you build a new biogas system.

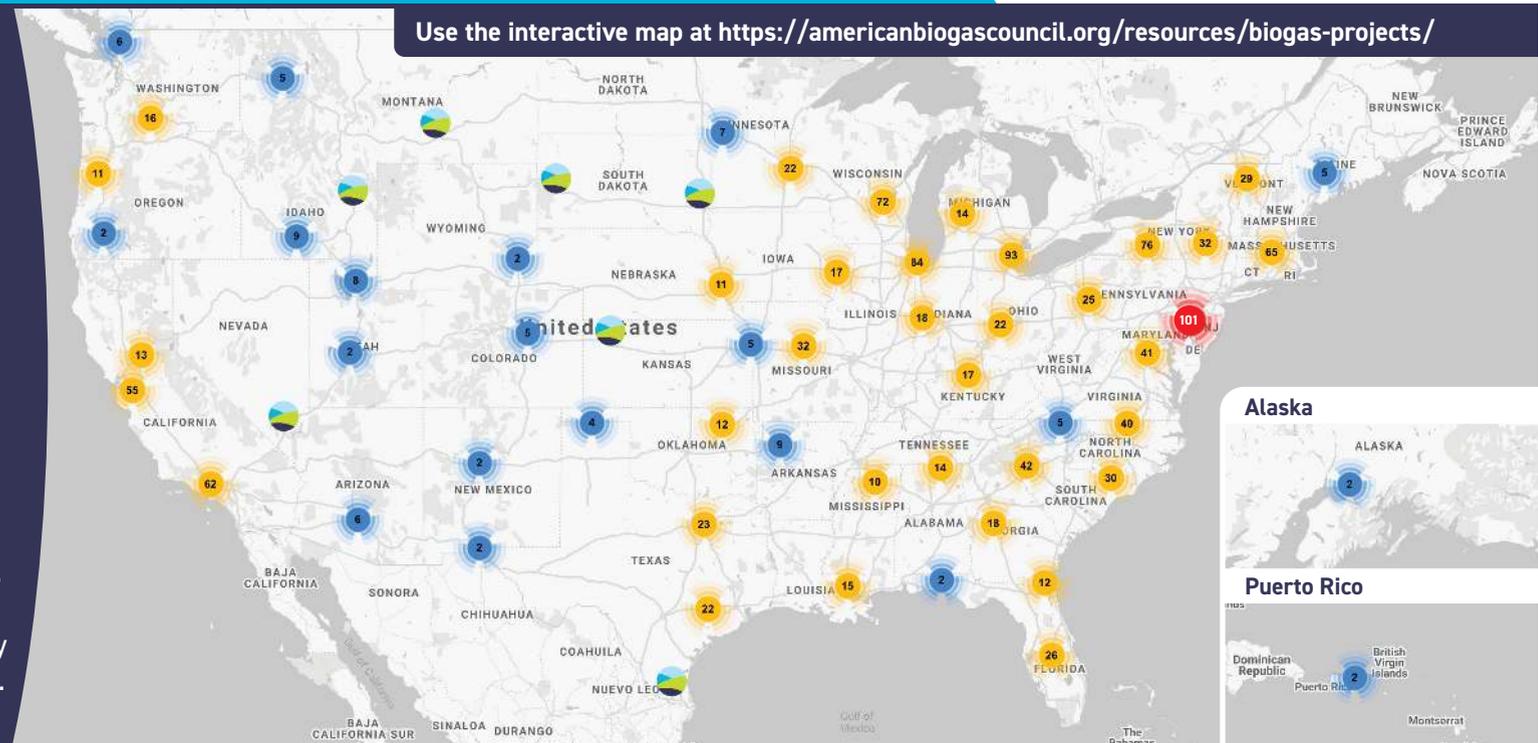


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Operational U.S. Biogas Systems

The U.S. has over 2,200 sites producing biogas in all 50 states: 253 anaerobic digesters on farms, 1,269 water resource recovery facilities utilizing anaerobic digesters, 68 stand-alone systems that digest food waste, and 652 landfill gas projects. For comparison, Europe has over 10,000 operating digesters, with some communities essentially fossil fuel free because of these systems.

In 2018, investment in new biogas systems totaled \$1 billion. Over the last five years, total investment in the U.S. biogas industry has been growing at an annual rate of 12%.



Potential for U.S. Biogas Systems

The U.S. biogas industry has enormous growth potential.

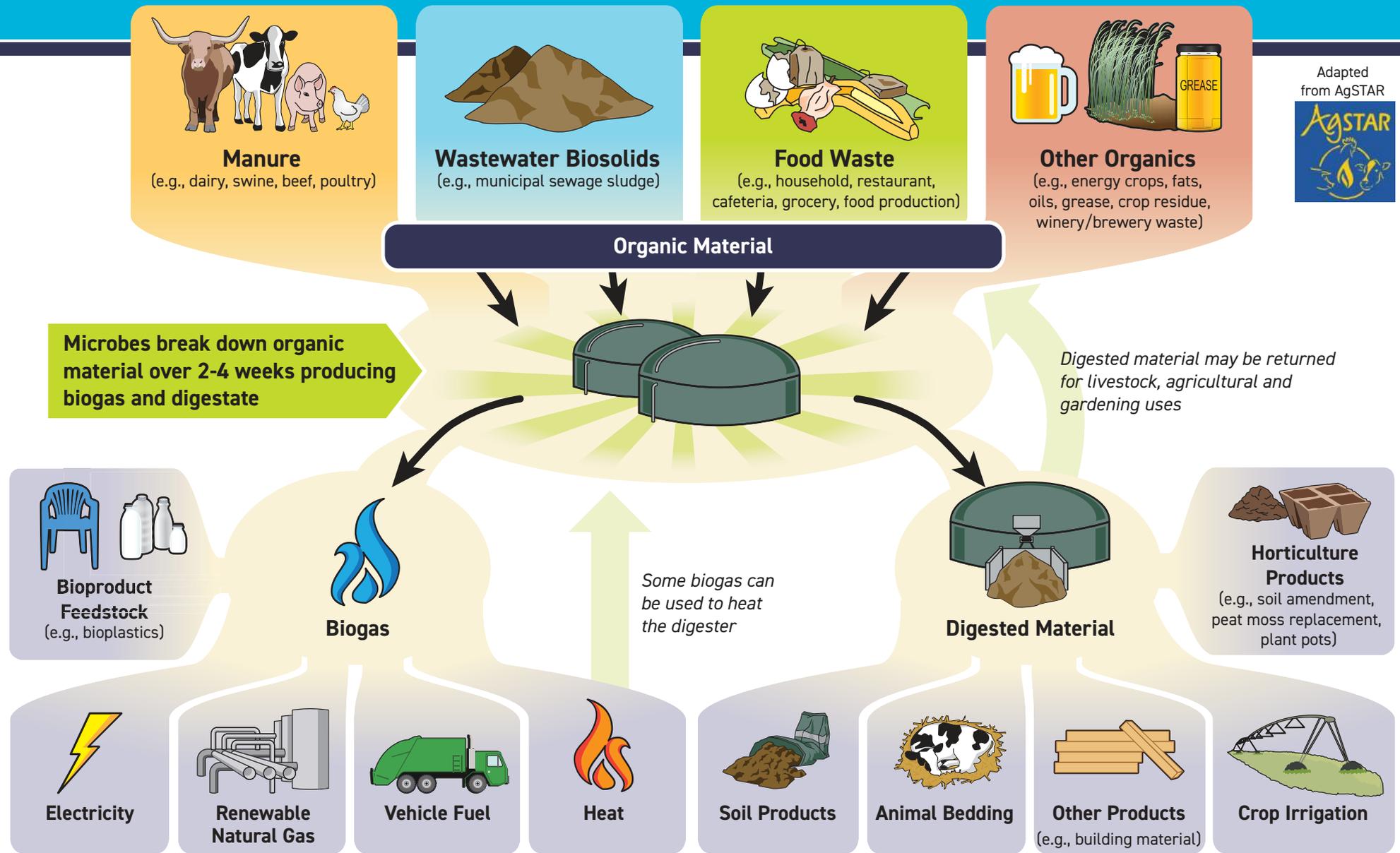
We count over 13,500 new sites ripe for development today: 8,241 dairy and swine farms, 3,888 water resource recovery facilities, 931 food scrap-only systems, and 415 landfills that are flaring their gas. If fully realized, according to a recent industry assessment conducted with the USDA, EPA and DOE as part of the *Federal Biogas Opportunities Roadmap*, plus data from American Biogas Council, **these new biogas systems could produce enough energy to power 7.5 million American homes and reduce emissions equivalent to removing up to 15.4 million passenger vehicles from the road.** They would also catalyze an estimated \$40 billion in capital deployment for construction activity which would result in approximately 335,000 short-term construction jobs and 23,000 permanent jobs to build and run the digesters.

For individual state profiles, visit: <https://americanbiogascouncil.org/resources/state-profiles/>

Sources: American Biogas Council, Biogas Opportunities Roadmap (USDA, EPA, DOE, 2014), EPA AgSTAR 2016, EPA LMOP 2017, Water Environment Federation "Enabling the Future", AcuComm. Last updated April 26, 2018

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How Biogas Systems Work



ORGANIC MATERIAL
Organic materials are the "input" or "feedstock" for a biogas system. Some organic materials will digest more readily than others.

THE DIGESTER
An anaerobic digester is a system of airtight tanks that can be equipped for mixing and warming organic material.

BIOGAS
Biogas consists mostly of methane and carbon dioxide, plus water vapor, and other trace compounds (e.g., siloxanes)

RENEWABLE NATURAL GAS
Processed biogas ("biomethane" or "renewable natural gas") is used like fossil natural gas: heat; electricity; vehicle fuel; natural gas pipelines.

DIGESTED MATERIAL (DIGESTATE)
In addition to biogas, digesters produce solid and liquid digestate, containing valuable nutrients (nitrogen, phosphorus & potassium) and organic carbon.