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.

Potential for U.S. Biogas Systems
The U.S. biogas industry has enormous growth potential.
How Biogas Systems Work

**Organic Material**

- **Manure** (e.g., dairy, swine, beef, poultry)
- **Wastewater Biosolids** (e.g., municipal sewage sludge)
- **Food Waste** (e.g., household, restaurant, cafeteria, grocery, food production)
- **Other Organics** (e.g., energy crops, fats, oils, grease, crop residue, winery/brewery waste)

**Microbes break down organic material over 2-4 weeks producing biogas and digestate**

**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). Some biogas can be used to heat the digester.

**Digestate (Digested Material)**
In addition to biogas, digesters produce solid and liquid digestate, containing valuable nutrients (nitrogen, phosphorus & potassium) and organic carbon.

**Product Uses**
- **Electricity**
- **Renewable Natural Gas**
- **Vehicle Fuel**
- **Heat**
- **Soil Products**
- **Animal Bedding**
- **Other Products** (e.g., building material)
- **Crop Irrigation**
- **Bioproduct (Feedstock)** (e.g., bioplastics)
- **Horticulture Products** (e.g., soil amendment, peat moss replacement, plant pots)

**Adapted from AgSTAR**

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