Anaerobic Digestion Facilities
Processing Food Waste in the United States in 2015

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U.S. EPA OLEM/ORCR

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Overview

1. Background
2. Goals
3. Project
4. Results
5. Next Steps
Our country has a goal:
Cut wasted food in half by 2030
Learn how to do your part: www.epa.gov/foodrecovery
Data Collection Goals

- Identify number and location of AD facilities
- Document processing capacity & track over time
- Types of feedstocks and sources
- Amount of food waste processed
- Amount of biogas produced
- Analyze the end-uses of AD products
Information Collection Request (ICR)

FEDERAL REGISTER
The Daily Journal of the United States Government

Information Collection Request (ICR)

Environmental Protection Agency (EPA)

Section 304(b) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) [42 U.S.C. 9604(b)] requires the EPA Administrator to publish a notice in the Federal Register prior to the collection of information from small entities.

The EPA is proposing to collect information from small entities for the purpose of assessing the potential impacts of a plan to utilize the existing wastewater treatment facility at the Hanford Site, a Superfund site in Washington State.

The information collected will be used to support the Agency's efforts to protect human health and the environment.

The proposed information collection request is being submitted for public comment and is available for review at the following website: https://www.epa.gov/hanford-observation-plan.

For more information, contact John H. Z. Washington, Acting Director, Office of Information and Regulatory Affairs, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue NW, Washington, DC 20460; telephone: 202-566-0343; fax: 202-501-5790; email: john.h.washington@epa.gov.

SUPPLEMENTAL INFORMATION:

The Agency is requesting comments from affected parties regarding the proposed information collection. Comments must be submitted in writing no later than 30 days after the publication date.

The Agency will consider all comments received and will take them into account in the final decision on the approval or disapproval of the information collection request.

December 20th 2016!

2016!
EPA’s AD Data Collection Project

- Stand-alone
- On-farm
- WRRF

https://www.epa.gov/anaerobic-digestion/anaerobic-digestion-tools-and-resources
Results

- Location Data
- Response Rates
- Processing Capacity
- Food Processed
- Biogas Production
- Operational Dates
- Feedstock Types & Sources
- Biogas Uses
- Gas Cleaning Systems
- Solid & Liquid Digestate Uses

And more in the full report!
Results: Operating AD Facilities by State
# Results: Response Rate

<table>
<thead>
<tr>
<th>Digester type</th>
<th>Operational Facilities</th>
<th>Submitted Survey</th>
<th>Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stand-alone digesters</td>
<td>61</td>
<td>50</td>
<td>82%</td>
</tr>
<tr>
<td>On-farm digesters</td>
<td>43</td>
<td>15</td>
<td>35%</td>
</tr>
<tr>
<td>WRRF digesters</td>
<td>80</td>
<td>72</td>
<td>90%</td>
</tr>
<tr>
<td>Total</td>
<td>184</td>
<td>137</td>
<td>74%</td>
</tr>
</tbody>
</table>
Results: Food Waste Processing Capacity

- Maximum Amount of Food Waste Feedstock
- Any one Anaerobic Digester Can Accept
- Per Unit Time (year)

\[ \text{Processing Capacity} = \]
Results: All Three Digester Types Combined

- Total processing capacity = 15.8 million tons per year
- Total amount of food waste processed = 12.7 million tons
- Total amount of biogas produced ≈ 35,000 SCFM
Results: Operational Dates

- Stand-Alone Digesters
- On-Farm Digesters
- WRRF Digesters
Results: Top Five Feedstock Types Processed

- FOG
- Food proc. industry waste
- Bev. Proc. industry waste
- Fruit/veg. wastes
- Food serv. waste, pre & post-consumer

Legend:
- Stand-Alone Digesters
- On-Farm Digesters
- WRRF Digesters
Results: Top Five Sources of Feedstock

![Bar chart showing the number of facilities reporting use of different sources of feedstock. The chart compares three types of digesters: Stand-Alone, On-Farm, and WRFF Digesters. The top five sources are Food/bev. Proc., Rest. & food service, Groc. stores/superm., Munici./res., and Industrial.](image)
Results: Top Five Uses of Biogas

- Produce heat and electricity (CHP)
- Fuel boilers and furnaces to heat digesters
- Fuel boilers and furnaces to heat other spaces
- Produce electricity (sold to grid)
- Produce electricity used behind the meter

Legend:
- Stand-Alone Digesters
- On-Farm Digesters
- WRRF Digesters
Results: Top Five Constituents Removed
Results: Top Five Destinations of Solid Digestate
Results: Uses of Liquid Digestate

The diagram illustrates the distribution of uses of liquid digestate across different categories and facility types. The categories are:

1. Recirculated through digester
2. Reused as fertilizer via land application
3. Discharged to a wastewater treatment plant
4. Other

The facility types included are:

- Stand-Alone Digesters
- On-Farm Digesters
- WRRF Digesters

The chart shows the number of facilities reporting each use, with specific categories for each type of facility.
Conclusions & Next Steps

• Report finalized in July 2018 – released to public
• Phase II data collection – underway
• Phase II report – target release - April 2019

https://www.epa.gov/anaerobic-digestion/anaerobic-digestion-tools-and-resources
Thank you!

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