

# **NYSERDA Industrial Decarbonization & Sustainability Solutions**

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**NYSERDA**

# NYS Energy Research & Development Authority



**NYSERDA**

- **Our Mission:** Advance clean energy innovation and investments to combat climate change, improving the health, resiliency, and prosperity of New Yorkers and delivering benefits equitably to all.
- **Support for C&I Sectors:**
  - Accelerate energy efficient investment decisions
  - Support soft costs, education, and training needs
  - Focus on process efficiency opportunities
  - Advancing cutting edge technology

# Agriculture in NYS

## **Stats: latest US Census for Agriculture – 2022**

- \$8 Billion in sales
- 30,000 farms

## **Top 10 in country (from USDA):**

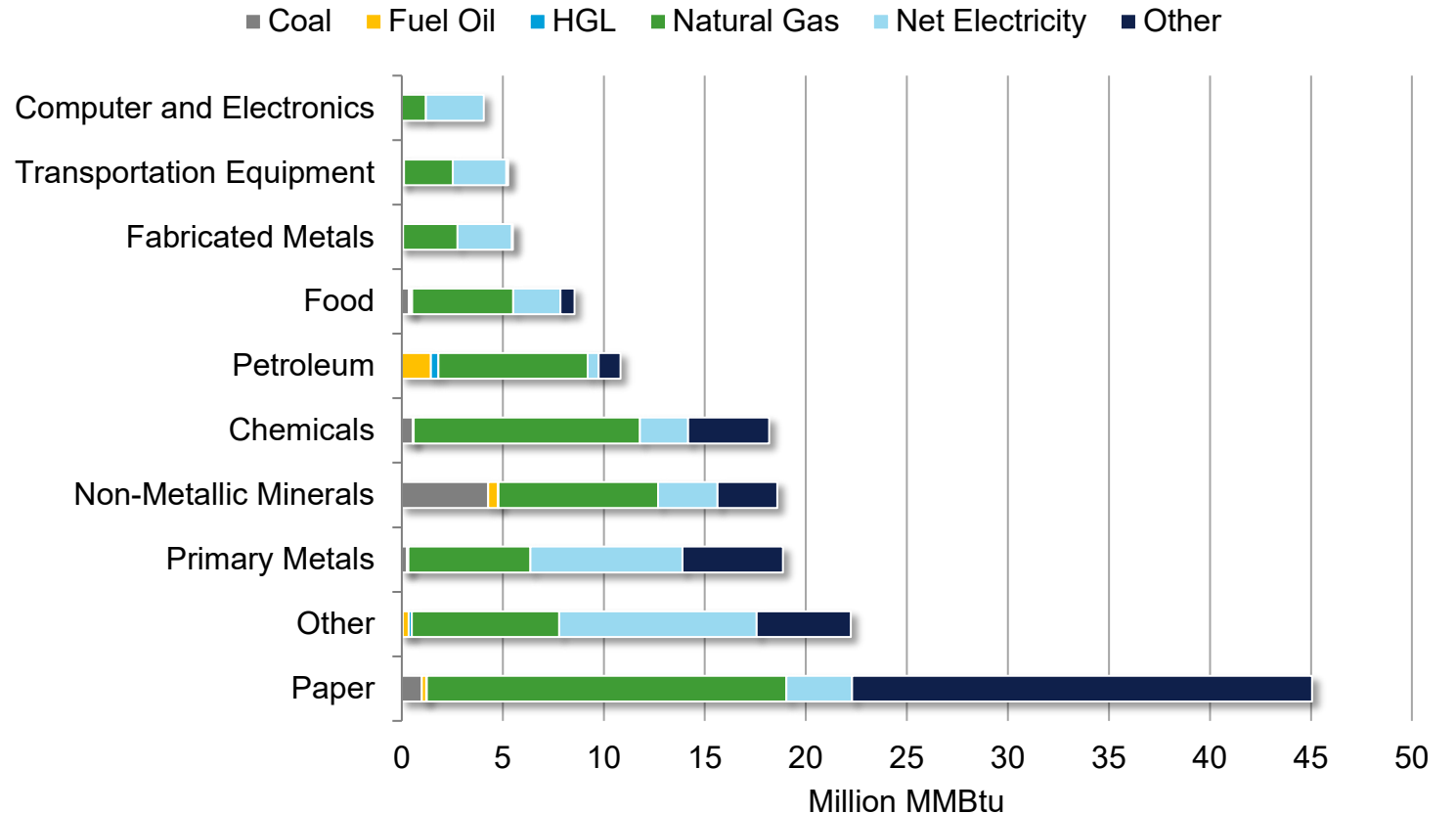
- #1 in cottage cheeses, sour cream, & yogurt
- #2 in maple syrup, apples, cabbage, & beans
- #3 in squash
- #4 in corn silage and ice cream
- #5 in milk and cheese production
- #6 in Christmas trees
- #7 in sweet corn and oats
- #8 in onions and pumpkins
- #9 in milk goats, sheep, and floriculture sales



# New York State's Industrial Sector

## Top Sectors

Subsector	2022 Energy Consumption (million MMBtu)	2022 GHG Emissions (thousand MtCO <sub>2</sub> e)
Paper	45.0	5,185
Other	22.2	2,571
Primary Metals	18.9	2,177
Non-Metallic Minerals	18.6	2,120
Chemicals	18.2	1,954
Petroleum	10.8	1,090
<b>Food</b>	<b>8.6</b>	<b>927</b>
Fabricated Metals	5.5	606
Transportation Equipment	5.3	581
Computer and Electronics	4.1	474
<b>Total, 2022</b>	<b>157.1</b>	<b>17,686</b>



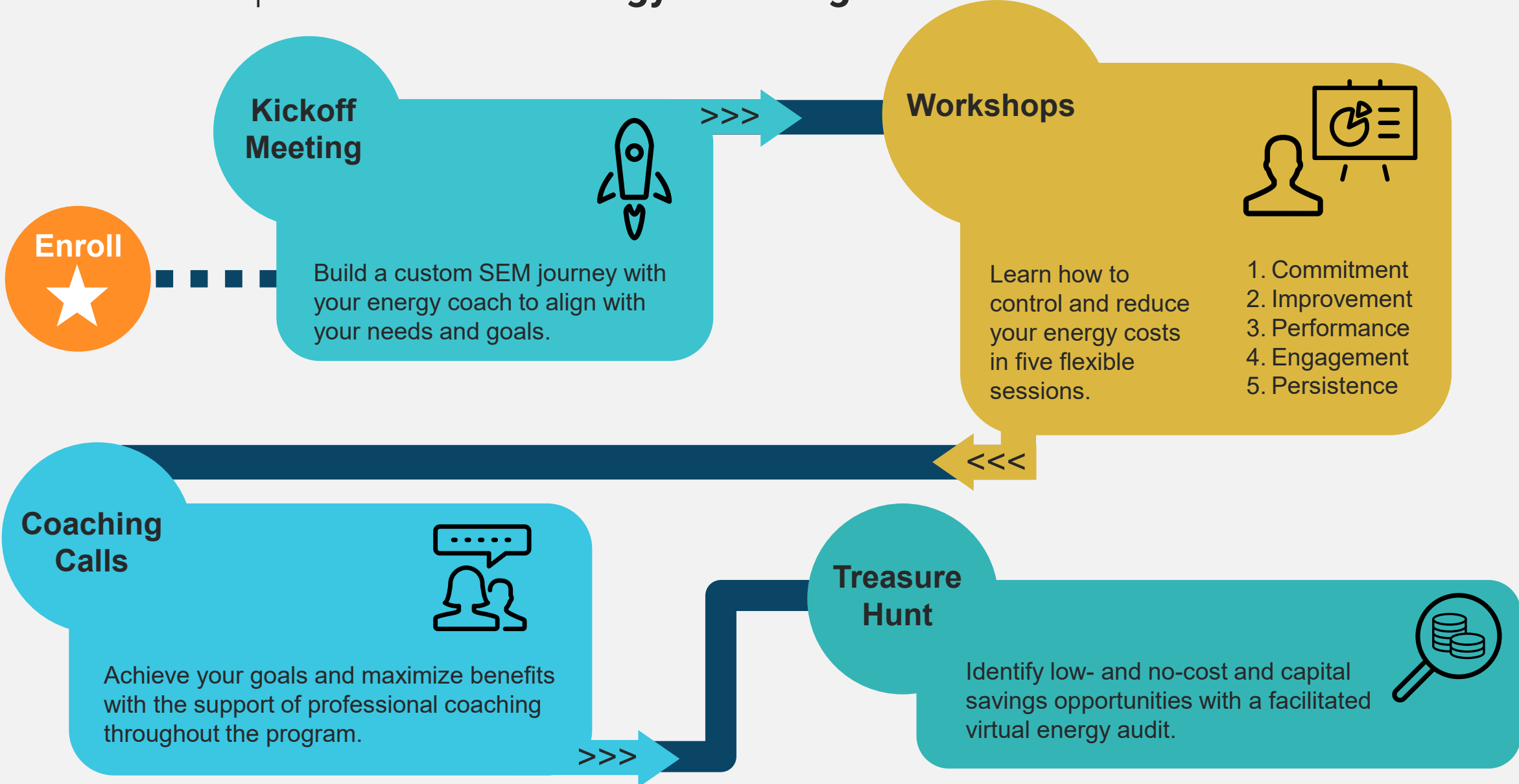
# Program Offering Overview

Eligibility: Must pay into System Benefits Charge (SBC) through electric utility:

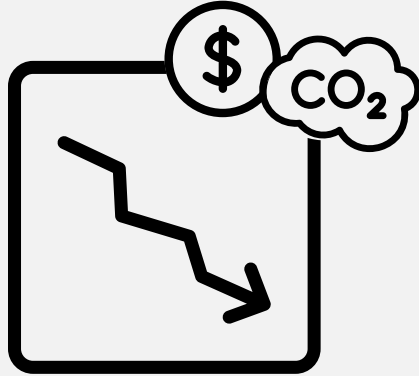
- Central Hudson
- Con Edison
- National Grid
- NYSEG
- Orange and Rockland
- RG&E

1. **Strategic Energy Management** (SEM) – no cost series of flexible and self-paced Energy Management facilitated trainings using web-based platform, including a virtual energy audit.
2. **On-Site Energy Manager** (OsEM) – cost-sharing to place an on-site resource focused on identifying and executing energy reduction projects.
3. **Flexible Technical Assistance** (FlexTech) – cost-shared energy engineering study program.
4. **C&I Carbon Challenge** – competitive offering to the largest energy users in the state for funding the most cost-effective carbon reduction projects.

**SEM** provides professional energy coaching and technical support to help develop and execute a plan to **achieve energy-related goals.**



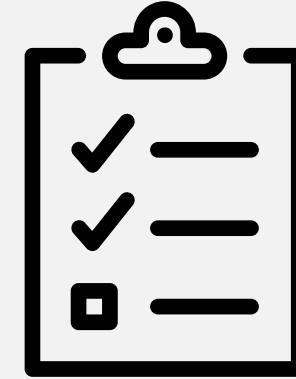
# Potential key outcomes of SEM



Reduced Energy Costs  
& Carbon Footprint



Achieve regulatory  
requirements



Improved Operations



Customer Recognition



Potential for Utility Rebates



Collaboration with  
Experienced Coaches

# On-site Energy Manager (OsEM)

## November 2023 Update

- 75% standard cost share
- **100%** cost share for **Industrials in DACs** (<https://www.nyserda.ny.gov/ny/Disadvantaged-Communities>), up to cap, while funds allow.
- **Applicant may be the customer or consultant**
- **Previous Engagement Terms Apply**
  - Engagement must be 20 hrs/week
  - Minimum 12 months to 48 months max
  - Designated OsEM can be a new permanent hire, contracted staff or hybrid thereof
  - Cannot already have a dedicated OsEM

Facility Consumption	NYSERDA Funding Cap	Bonus Incentive
<b>Greater than</b> \$1mil annual energy spend	\$200,000 max	\$7,000/year for 2 years after engagement
<b>Less than</b> \$1mil annual energy spend	\$100,000 max	\$5,000/year for 2 years after engagement

[www.nyserda.ny.gov/osem](https://www.nyserda.ny.gov/osem)  
[onsiteenergymanager@nyserda.ny.gov](mailto:onsiteenergymanager@nyserda.ny.gov)



# FlexTech

*November 2023 Update*

## NYSERDA's most flexible offering

- **50% energy study cost-share, capped at \$500,000**
  - Targeted energy feasibility studies
  - Comprehensive analysis of equipment/ systems
  - Investigation of Clean Heating and Cooling Systems
  - Energy Master Planning
  - Indoor Air Quality (IAQ) analysis
  - Retro-commissioning analysis
- *75% cost-share of energy studies for Industrials located in a DAC or Industrial studies with an electrification measure*
- **Use a FlexTech approved consultant**
  - OR any contractor of your choice
- **IAC Equivalent Third Party Assessor**

[www.nyserda.ny.gov/flextech](http://www.nyserda.ny.gov/flextech)  
[flextech@nyserda.ny.gov](mailto:flextech@nyserda.ny.gov)



# IAC Implementation Grants

Bipartisan Infrastructure Law Provision 40521.b1



**\$80M in funding** available through FY 2026  
(Additional funding available in the next couple years depending on demand)



Grants awards of up to **\$300,000 per manufacturer**, at a 50% cost share<sup>1</sup>;  
Criteria: 50% impact/feasibility; 25% financial need + cost share; 25% community benefits



Eligibility exclusively for **small- and medium-sized manufacturing firms**,<sup>2</sup> water treatment facilities, and Controlled Environment Agriculture (CEA) facilities



To **address energy assessment recommendations** by IACs, DOE Combined Heat and Power/Onsite Energy Technical Assistance Partnerships, or other third-party assessors deemed equivalent by DOE

1. 50% cost share means that the applicant must cover at least 50% of the project cost. So, for instance, if an implementation project or projects costs \$100k, DOE can make a \$50k grant. Because \$300k is the maximum grant size per entity, applicants will need to cover 100% of costs over \$600k.

2. Small and medium-sized manufacturer (an entity that engages in the mechanical, physical, or chemical transformation of materials, substances, or components; or a water or wastewater treatment facility) is a firm with: gross annual sales of less than \$100M, fewer than 500 employees at the plant site, and annual energy bills of \$100,000 - \$3,500,000. If the manufacturer/facility is an individual LLC that pays separate taxes from the parent company, then eligibility is based on the LLC.

# C&I Carbon Challenge

*Currently closed but pending re-release Q2 2024!*

## Competitive offering to large facilities with cost effective carbon emissions reduction projects.

- Large Commercial, Industrial, and Institutions:
  - Greater than \$1 million average annual energy spend
  - Electrification of heat, process emission reductions, thermal load reductions

## Individual awards from \$500K to \$5M

- Project portfolio can include Electrification of heat, Low-carbon Fuel, and Carbon Capture, Utilization, and Storage, Renewable Technologies, Energy Efficiency, or Battery Storage.
- Payment for projects provided up-front to help fund project implementation.
- Use **OsEM** or **FlexTech** to help build project list for next round

[www.nyserda.ny.gov/cicc](http://www.nyserda.ny.gov/cicc)  
[sean.industrial@nyserda.ny.gov](mailto:sean.industrial@nyserda.ny.gov)

# Anaerobic Digestion of Dairy Processing Wastes

- Anaerobic digestion is currently used to treat dairy processing wastes and produce biogas from dairy at facilities across New York State.
- Anaerobic digestion is used to treat dairy processing wastes at several wastewater treatment plants partnered with a dairy processor including: Kraft-Heinz, Fage and Byrne Dairy.
- Some farm anaerobic digesters handling dairy manure also accept dairy processing waste from several plants including Chobani and Stewart's.
- On-site anaerobic digestion at dairy facilities is also possible, Hood being one example in NYS.

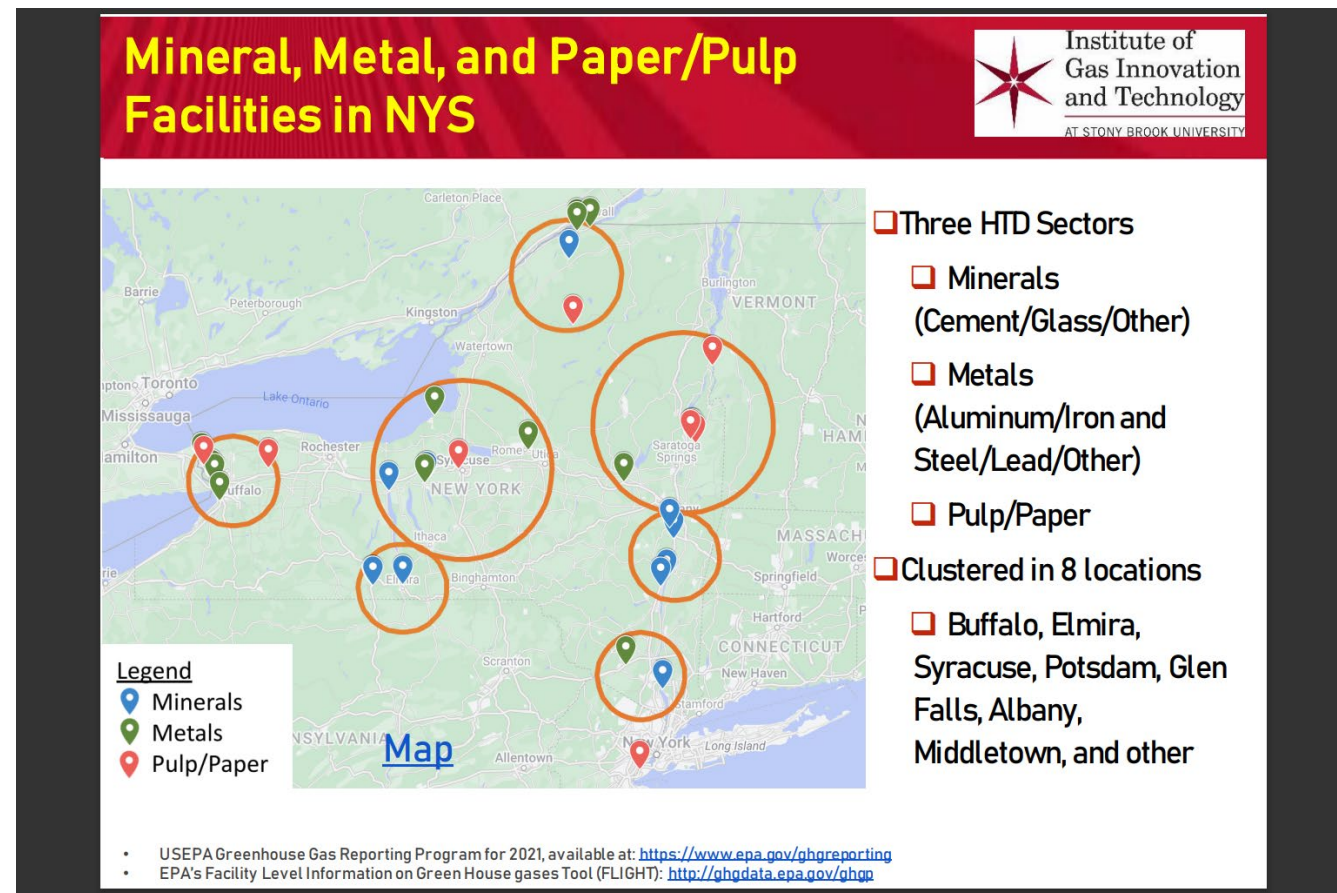
# NYSERDA's Portfolio of Funded AD Projects

Although there are no current direct AD funding programs, over several decades NYSERDA has funded approximately 35 digesters in NYS:

- Over two dozen of those are dairy farms projects, 4 are private “merchant” digester plants taking mostly food wastes, one plant is at Matts Brewery in Utica and the rest are at wastewater treatment facilities.
- Recently 15 of the farm projects have undergone refurbishments. Over 12 farms have or are planning to switch from producing power to producing Renewable Natural Gas (RNG). There are some new projects as well.
- The strong market for RNG is being driven by the high value for the gas via California (and other States) Low Carbon Fuel Standard and Federal programs.

# Research on RNG for Industry

- SUNY Stony Brook's current research project on AD/RNG includes a focus on the potential use of RNG to replace fossil natural gas in some cases.
- The study will compare to the current industrial natural gas usage to the RNG resource within clustered areas of the State.
- The study also looks at long-term contract RNG pricing observed nationally.



# More Information, Questions and Contact

- **All NYSERDA open programs:** <https://www.nyserda.ny.gov/All-Programs>
- **Funding Opportunity update list sign-up:**  
<https://www.nyserda.ny.gov/Funding-Opportunities/Funding-Opportunity-Email-List>
- **Contact information:**  
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