

Ag-Grid Energy LLC



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Ag-Grid and Rockwood
Ag-Grid Organics*



AG-GRID ENERGY LLC - Vision, Value Statement & Target Markets

“Ag-Grid Energy has a vision to drive dairy farm sustainability by converting agricultural and organic waste to energy, enhance nutrient management practices thereby improving farm viability and financial stability.”

■ Dairy Farms

- Focus on mid-size dairies 300 to 2000 milking cows for biogas to electricity
- Focus on larger-sized dairies 2000 to 5000 milking cows for biogas to RNG

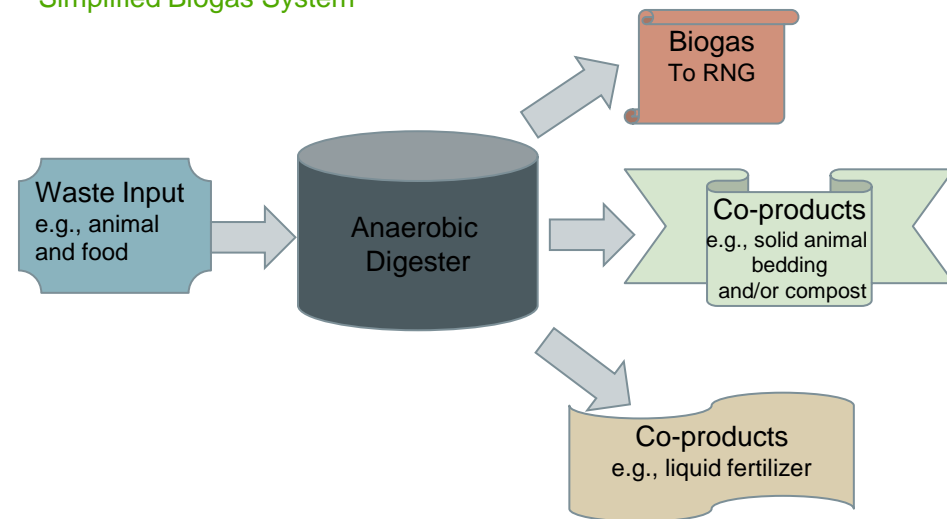
■ Waste

- Dairy manure
- FOGS
- Organic Slurry
- Packaged Organics

■ Geography

- Predominantly states with food waste ban
- Currently expanding into Mid-West and Mid-Atlantic with plans to expand in Southwest

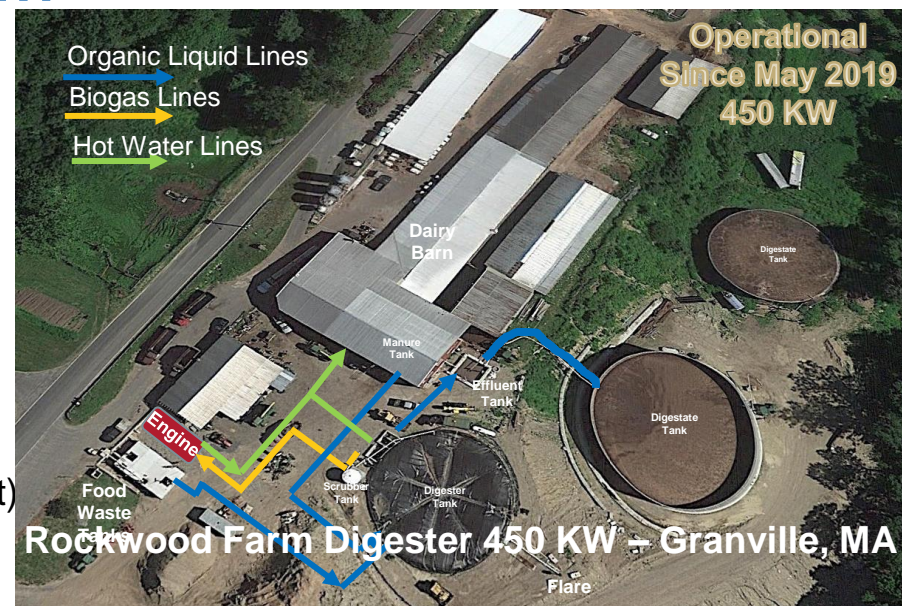
Simplified Biogas System



Accelerating Waste Conversion To Renewable Energy

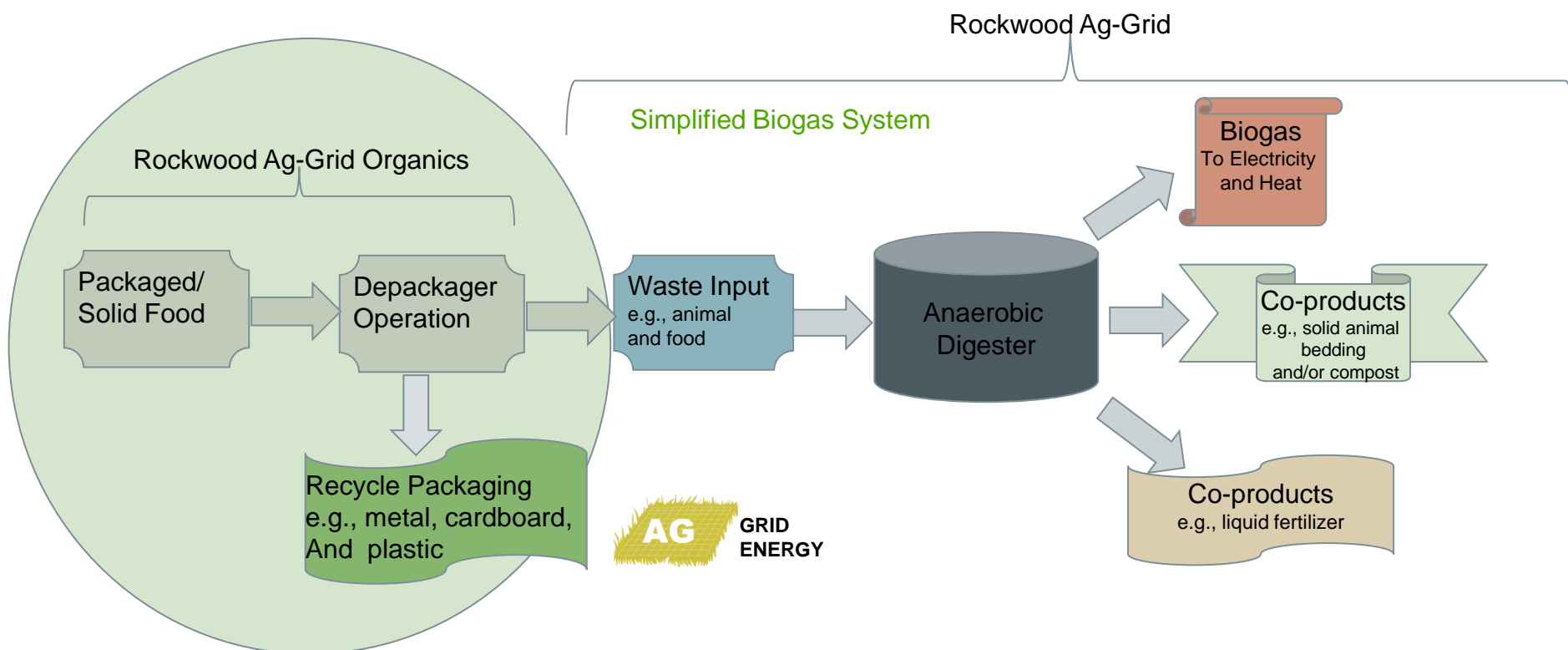
Ag-Grid's current generation - 1.3 MW

- Two Massachusetts dairy AD's (0.75 MW → 1.3 MW)
 - Rockwood has 400 milking cows
 - Belden has 180 milking cows
- Two Connecticut dairy AD's (0.55 MW → 1.1 MW)
 - Fort Hill has 220 milking cows
 - Hytone has 400 milking cows (under construction)
- One New York dairy AD (2 MW)
 - Lent Hill has 2100 milking cows (under development)

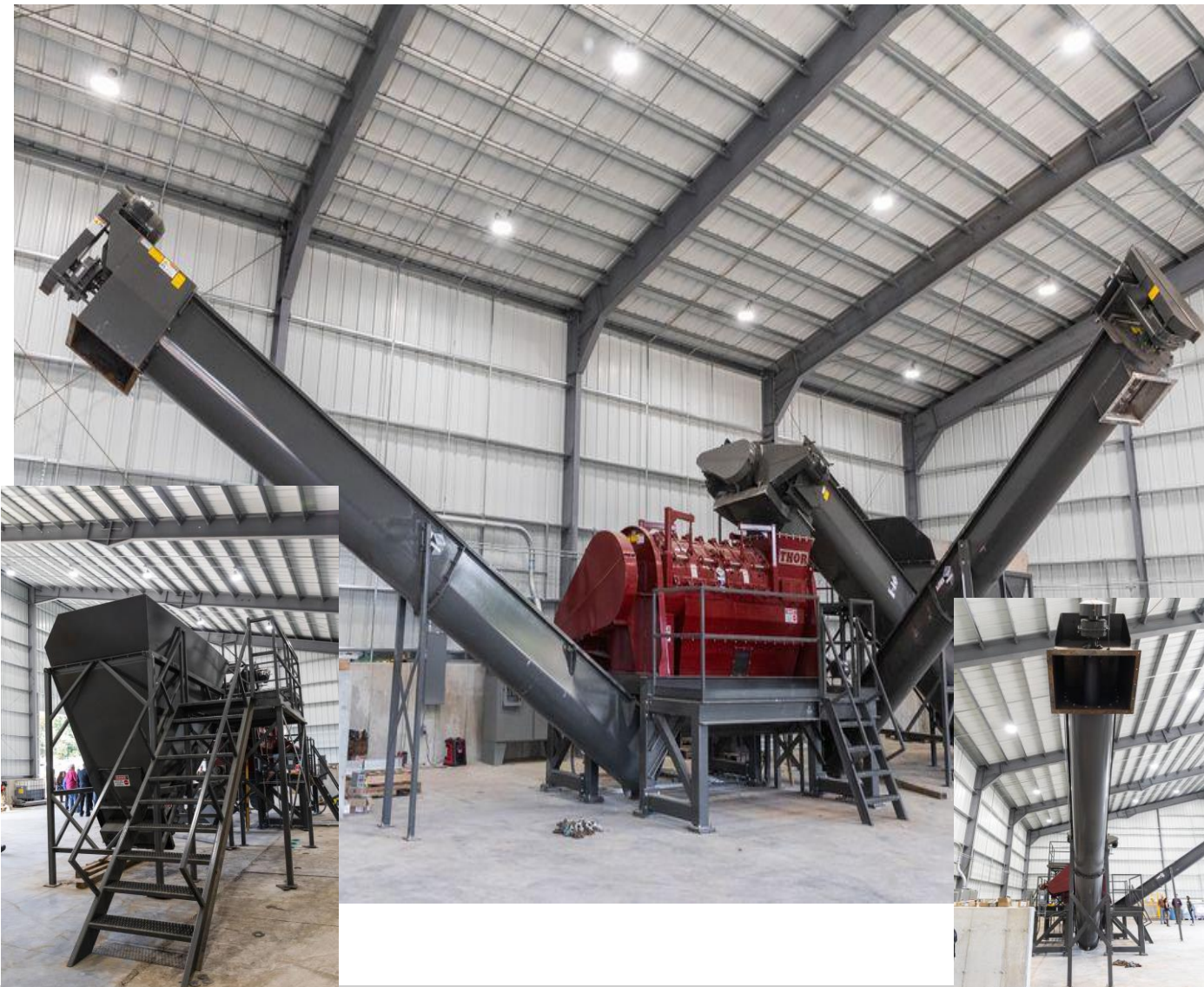


Added **DEPACKAGER** to Rockwood Dairy Digester


- Rockwood Digester could only take liquid food waste in 2018 and 2019
- Starting 2020 Rockwood began taking **PACKAGED** food waste from grocery stores and food processing plants



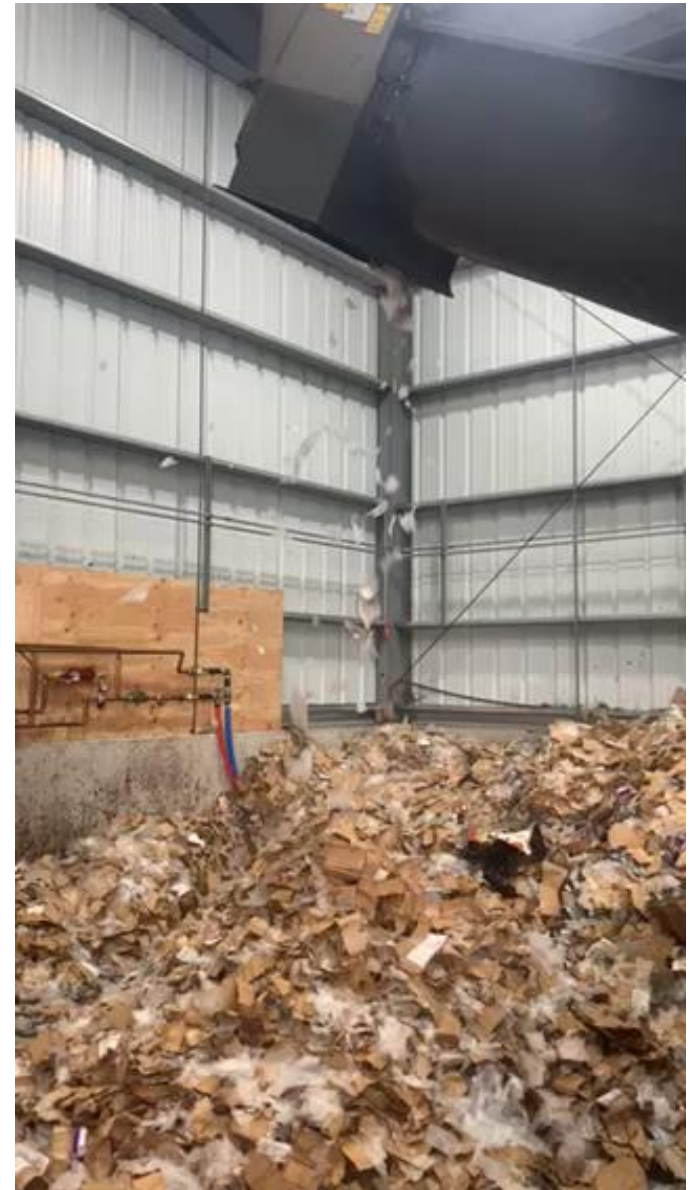
RAG-O Depackager can produce food waste slurry while separating packaging!



Food waste market focus is shifting from liquid waste to solid waste

Liquid Food Waste	Solid/Packaged Food Waste
<ul style="list-style-type: none"> ▪ Liquid food waste <ul style="list-style-type: none"> – Fats, Oils and Greases – Food Processing Waste ▪ Transportation/Collection <ul style="list-style-type: none"> – Tanker trucks with pumps ▪ No additional management ▪ Less complexity ▪ Less odor management 	 <ul style="list-style-type: none"> ▪ Solid/Packaged food waste <ul style="list-style-type: none"> – Clean streams – Contaminated/mixed stream ▪ Transportation/Collection <ul style="list-style-type: none"> – Box trucks – Compacters ▪ Packaging Disposal Management ▪ More complexity ▪ More odor management

Depackager removing packaging!

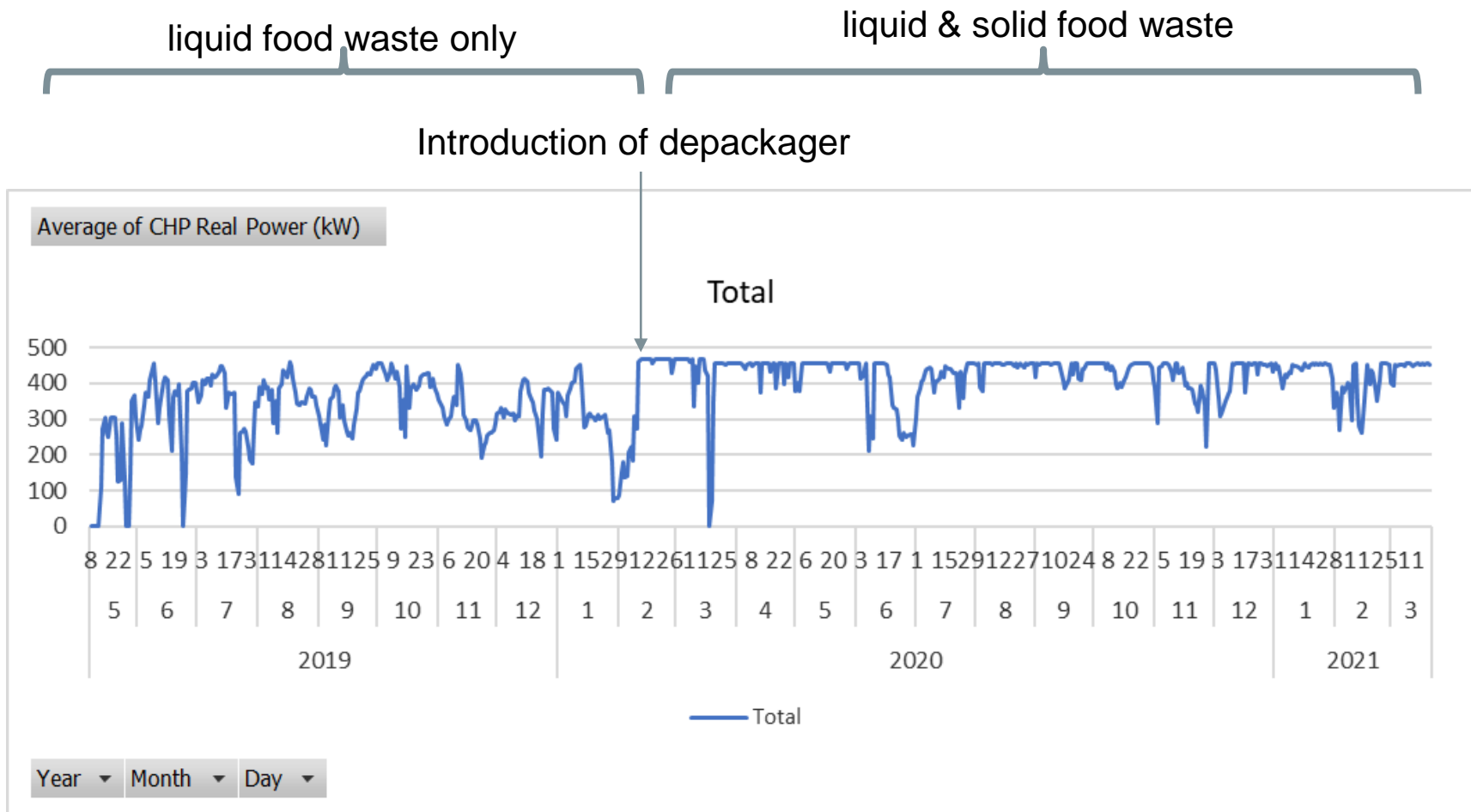


Recovering the packaging as much as possible! Cleaning barrels using our spray cleaning system!



Introduction of packaged food waste → enhances biogas production!

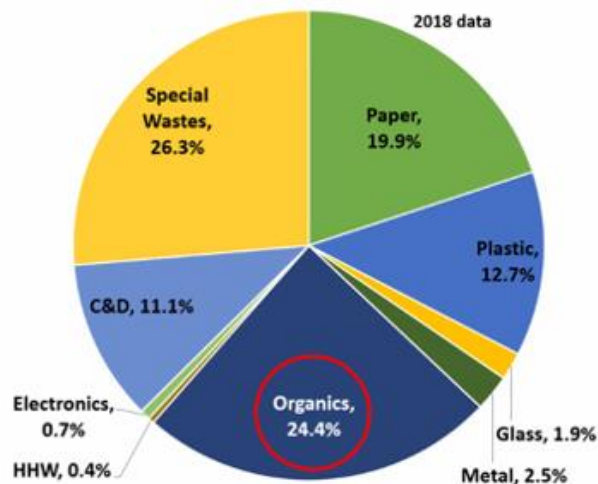
Solids pack more carbon per tons of food waste vs. Liquid



Trends in Northeast

2018 Waste Composition Study

Vermont



Food Waste Diversion Goal Jan 2022

- New York (**2 ton/week**)
- Connecticut (**½ ton/week**)
- Massachusetts (**½ ton/week**)

Massachusetts – Food Waste Diversion Growth

Processing Type	2016 Tonnage	2017 Tonnage	2018 Tonnage	2019 Tonnage
Compost	79,586	52,991	42,321	40,569
Animal Feed	26,250	26,777	39,593	40,014
Anaerobic Digestion	48,234	87,856	159,563	187,947
Other	13,277	12,819	8,065	9,552
Food Donation	22,712	25,940	26,637	27,703
Total	190,059	206,382	276,180	305,785

- 26 compost operations
- 10 AD facilities
- 8 de-packaging operations
- 6 animal feed
- 5 animal feed & compost

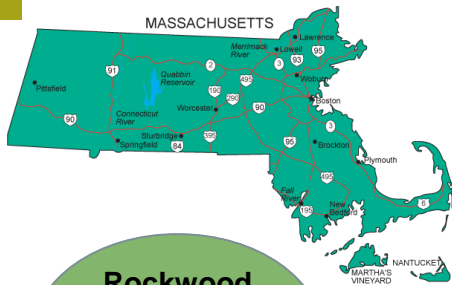
Current food waste supply chains are not optimized

- Current supply chains are
 - creating package waste
 - Pallets
 - Carboard
 - Plastic
 - Totes
 - Creates additional labor to pack and unpack food waste
 - Creates additional packaging tonnage that increases fuels consumption
- Future supply chains are in development that reduce
 - Packaging
 - Labor
 - Fuel Consumption



Mission: to create optimized distributed food waste supply chains

Ag-Grid Energy Current Operating Facilities



Operational Projects

Under construction Projects

Rockwood
Ag-Grid LLC
Granville, MA

Fort Hill
Ag-Grid LLC
Thompson, CT

Rockwood
Ag-Grid
Organics LLC
Granville, MA

Hytone
Ag-Grid LLC
Coventry, CT

Belden
Ag-Grid LLC
Hatfield, MA

Ag-Grid Energy
LLC

Lent Hill
Ag-Grid LLC
Cohocton, NY



New York

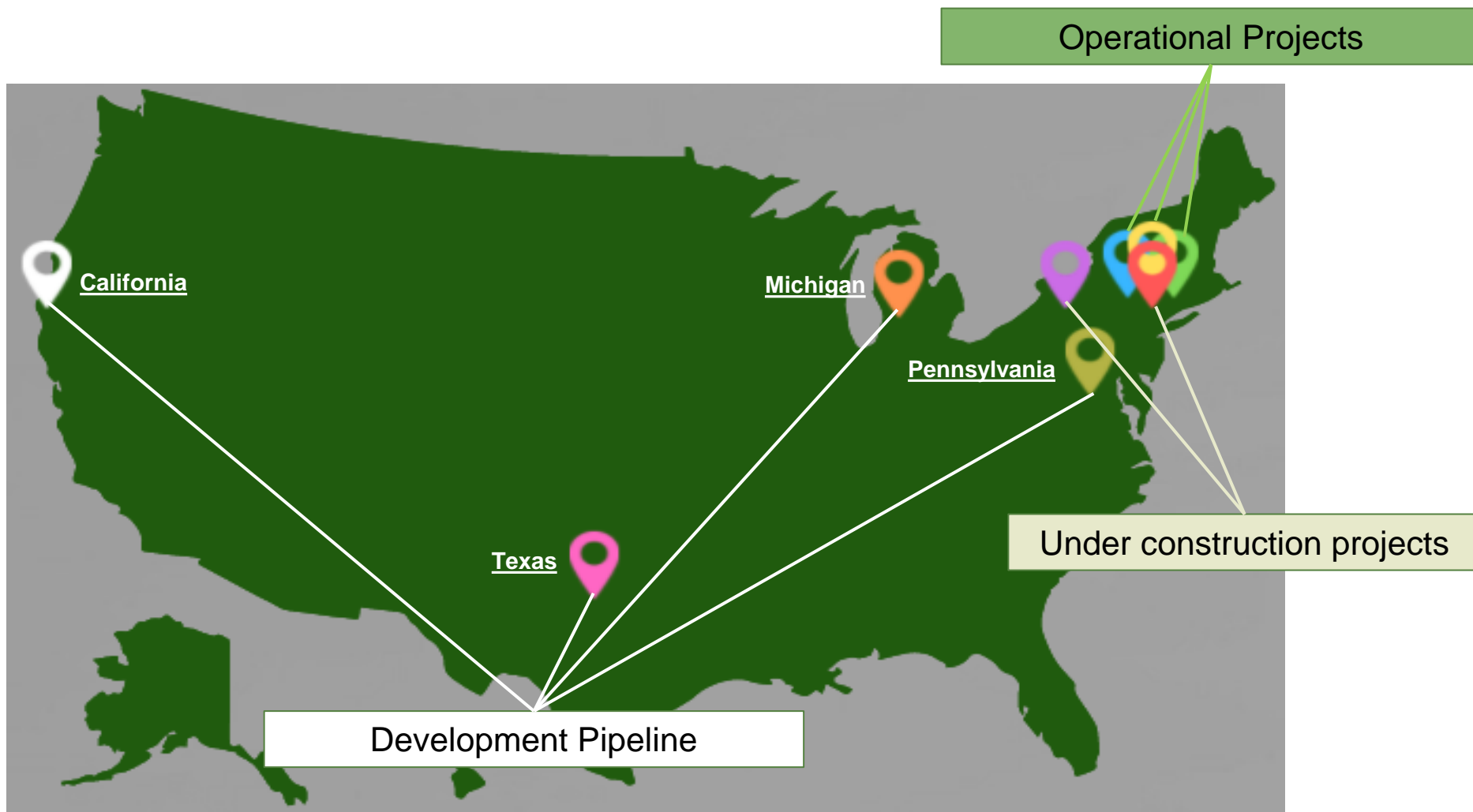
Current Project Portfolio

Processing 60,000 tons with planned expansion to 120,000 tons of food waste/year
Producing 1.3 MW with planned expansion to 4.5 MW of renewable electricity

Project	State	Size, kW	Stage	Food Waste (Gallons or tons/day)	Start Date
Rockwood Ag-Grid	Granville MA	450 → 840 KW	8	18,000 gallons	Operational @ 450 KW
Belden Ag-Grid	Hatfield MA	300 → 550 KW	8	18,000 gallons	Operational @ 300 KW
Rockwood Ag-Grid Organics	Granville MA	-	8	50 tons	Operational
Fort Hill Ag-Grid	Thompson CT	550 KW	8	18,000 gallons	Operational
Hytone Ag-Grid	Coventry CT	550 KW	5	18,000 gallons	Oct 2022
Lent Hill Farm	Cohocton NY	2000 KW	4	36,000 gallons	Oct 2022

(*) Stage 1 – Preliminary Discussion; 2 – Proposal Development, 3 – Partnership creation, 4- Feasibility Assessment; 5 – Permit/EPC Initiated, 6 – Building Phase, 7 – Start-up, Phase 8 - Operational

Ag-Grid Energy Expanding Across US



Ag-Grid Expansion Strategy

Build Base (Current)

- Operate current AD and Depack facilities in MA and CT site to produce electricity from manure and food waste

Expand (Year 0-2)

- Expand into mid-Atlantic with manure + food waste to RNG and electricity combo model

Expand (Year 2-5)

- Build farm digesters in Mid-west and Southern states with biogas to RNG; collaborate with Utilities and Midstream Companies as partners for RNG

Future (Year 5+)

- Add liquid digestate management to reduce the burden on the farm