AGreen Energy, LLC

Digester Brief – MA Dairy Farm – Manure + Organic
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Benefits to Urban and Rural Stakeholders

One Cow = Power for one home

Power, Heat and Fertilizer for all the farm

Increase farm income 15-25%

Sustainability Index to maintain food processing jobs

One Cow = Avoided GHG emissions of 3 cars

Organic ban in MA provides feedstock
Potential Revenue and Food Sources

Farm Advantages – $100 to $200 per cow
Fertilizer $50,000/yr
Yields – Hay 25%; corn reduce fertilizer 50%
No wood, propane or fuel oil for heat – save $30,000/yr
GHG savings – reduce chemicals and fossils
Nutrient management= more cows ok

On-Farm Manure
25 tons per day from 250 to 400 cows

Source Separated Organics
40 tons per day 3 cents gallon in tipping fees under contract w/ food processors and supermarkets
Alternative is silage and grass

Inputs

AD System
500 KW
Runs on i-Phone™
Process controls-centralized management controls

Environmental
Divert organics from Landfills – Reduce truck loads
Clean Renewable energy
Clean air = GHG reductions
Clean water = nutrient management = more cows
Improve Crop Yields = more food
Replace Chemical Fertilizer Use

Outputs

Electricity
4,400 MWh/yr = $550,000/yr
(power 500 Homes)
500KW engine

Waste Heat
up to $30,000/yr
Next with greenhouses using electricity, fertilizer and CO2

Fertilizer Sales
$25,000/yr

RECS
4,400 RECs = $88,000/farm/yr

BTU Usage
Incentives up to $25,000/yr

Carbon Credits
5,600 tons CO2 destroyed/yr

Bedding

Transport Fuel

Water and Nutrient Separation

Other

In Use
Not In Use

Takes collaboration – public and private – with policy support

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Nutrient Rich Dairy Products
with Industry Wide Branding and Loyalty Program

Farm Powered

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What if 43% of U.S. commercial/retail food waste currently thrown away was put back to the food system? This is feedstock for digesters.

- 16 million tons commercial/retail food waste
- 6 million tons food processing industrial plant organic waste
- 109 million tons dairy cow manure

Starts on family farms

- 30 million yd³ of nutrient rich fiber
- 26.4 million MCCO₂e GHG offset credits
- 9.3 million MWh electricity
- 338,090 tons recovered Nitrogen
- 111,091 tons recovered phosphorus