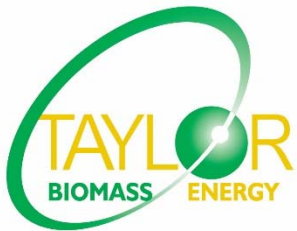


# Ulster County Environmental Presentation

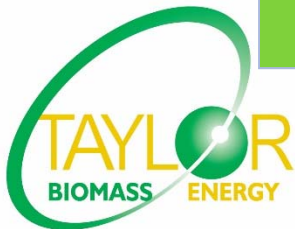
April 24, 2019



# The ABCs of Innovative, Alternative Energy

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>
<b><u>Abundant Feedstock</u></b> <ul style="list-style-type: none"> <li>• C&amp;D</li> <li>• Wood Waste</li> <li>• MSW</li> <li>• Commercial Waste</li> <li>• Storm Debris</li> <li>• Agricultural Wastes</li> </ul>	<b><u>Biomass Gasifier Technology</u></b> Converts organic carbon solids to its most gaseous states, also known as synthesis (fuel) gas.	<b><u>Conversion Products</u></b> The combined-cycle power plant uses the synthesis-gas as a fuel source to make renewable, alternative electricity.	<b><u>Dollars</u></b> <ul style="list-style-type: none"> <li>• Total project cost: approx. \$150-\$175M;</li> <li>• 82 permanent jobs, will generate \$5.9M in labor income, and \$27.3M in economic output;</li> <li>• 318 temporary construction jobs will generate \$13.9M in labor income and \$49.4M in economic output;</li> <li>• An estimated \$1.2M will be paid in property taxes.</li> </ul>	<b><u>Education</u></b> Employees will receive extensive training. Project will employ individuals at entry, mid and senior levels.	<b><u>Financing</u></b> Taylor has the potential to bring its own finance to a project	<b><u>Graduation</u></b> Sustainability; The facility will produce 24Mw of clean, renewable energy, using locally-sourced feedstock & local labor, while reducing greenhouse gas emissions by 477,000 tons/year.

**Most Gaseous Forms**  
 Hydrogen 48%  
 Methane 25%  
 Carbon Monoxide 18%  
 Inert Gases 9%



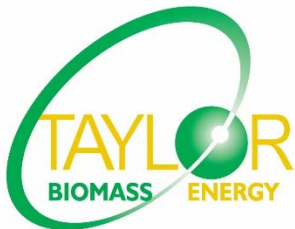
# What Is in Our Waste?

What is in your waste basket at home? In the office?  
Your response would tell me the finished manufactured product.  
Chemistry tells us differently ...

Using Orange County as the example\*:

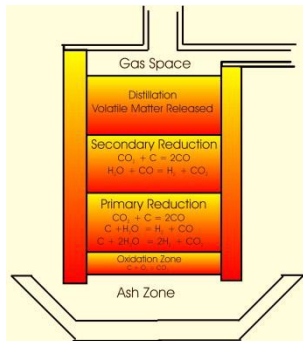
- 1) Unrecognizable(smaller than 3/4") 10% - Landfill/compost materials
- 2) Inorganic 23%- all recyclable
- 3) Household Hazardous Waste 2%- ever shrinking
- 4) Organics 65%- The Fuel of the Future**

Paper, fiber, food, leather,  
textiles, wood waste  
(excluding pressure treated  
or painted) and plastics (due  
to their oil content).



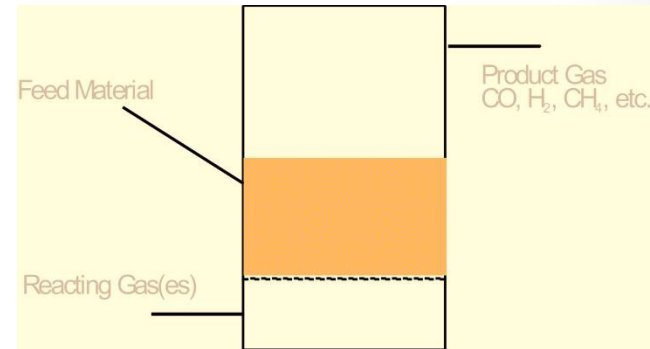
\*Waste characterizations may vary slightly, by region, but the components of its make-up will, generally, be consistent among these categories.

# Types of Gasifiers

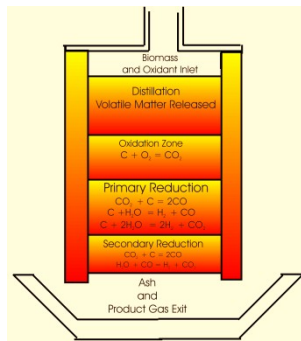


Fixed Bed Gasifier – Updraft Configuration

*All can be either "air" or "oxygen" blown*

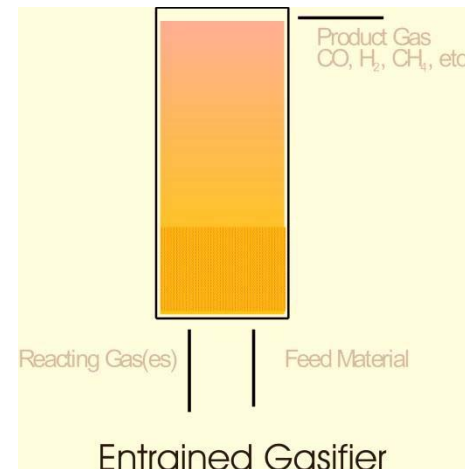


Fluid Bed Gasifier



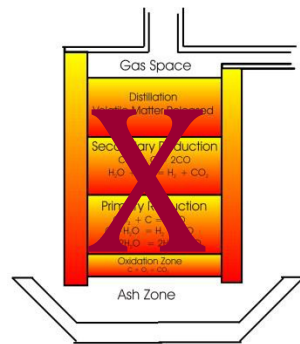
Fixed Bed Gasifier – Downdraft Configuration

*Heat provided by "burning" within the reactor*

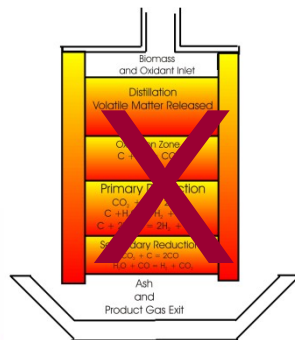


Entrained Gasifier

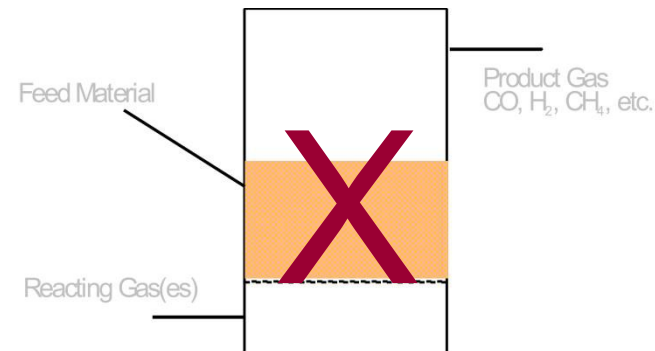
# What is The Taylor Gasifier?



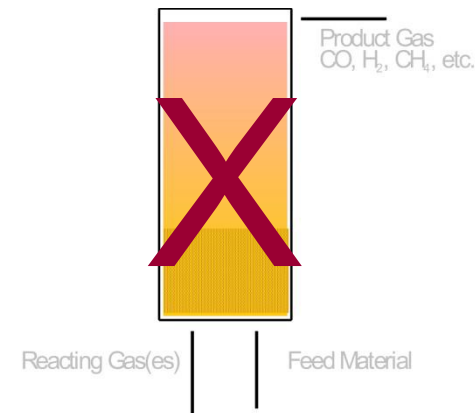
Fixed Bed Gasifier – Updraft Configuration



Fixed Bed Gasifier – Downdraft Configuration



Fluid Bed Gasifier



Entrained Gasifier

*None of These*

# Types off Gasification

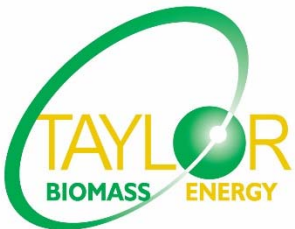
- Air-blown gasification ~150 Btu/scf  
(3.5-7Mj/Nm<sup>3</sup>)
- Oxygen-blown gasification ~300 Btu/scf  
(7-15 MJ/Nm<sup>3</sup>)
- Indirect gasification ~350-500 Btu/scf  
(13-20 MJ/Nm<sup>3</sup>)  
**The Taylor Process**

# Uses for the gas

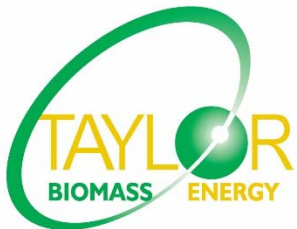
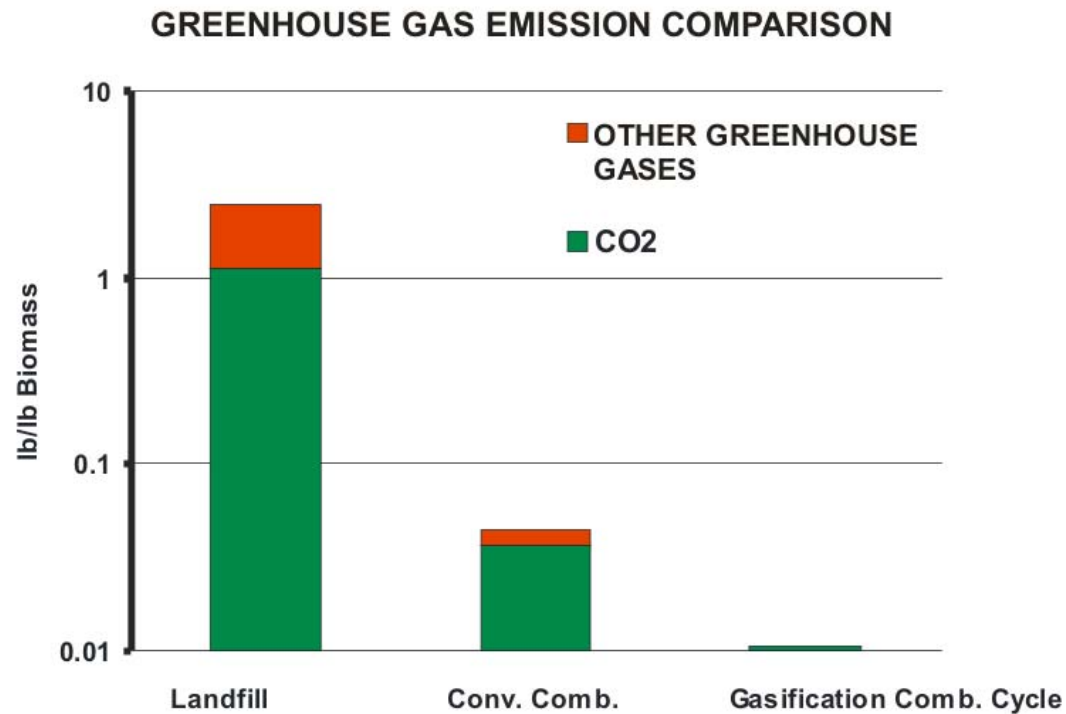
- Boilers
- Kilns
- Other Industrial Natural Gas Uses
- Gas Turbines
- Gas Engines
- Fuel Cells

## **Synthesis Applications**

- Mixed Alcohols
- FT Liquids
- Ethanol
- High Value Chemicals
- Uses not yet determined



# Eliminating Landfill Disposal Provides Substantial Greenhouse Gases Reduction





- 318 Temporary Union Construction Jobs in Orange County
  - 553 Construction jobs created outside Orange County, directly, in-directly or via induction.
- 82 Direct onsite jobs created;
  - 60 Post Collection Separation Facility Employees
  - 17 Gasification Facility Employees
  - 5 Trailer drivers
  - Average wage: \$39,233/year



- 35 Union Jobs Retained
- 52 Additional jobs in Orange County created in-directly or via induction.

# Thank You!

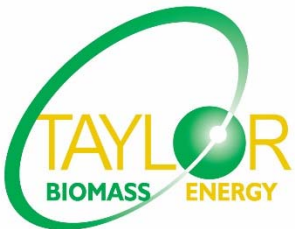
Questions or Comments- please contact:

James W. Taylor, Jr.

(845) 457-4021

[Jim.Taylor@taylorbiomassenergy.com](mailto:Jim.Taylor@taylorbiomassenergy.com)

[www.taylorbiomassenergy.com](http://www.taylorbiomassenergy.com)



Kenneth S. Panza, Member-at Large  
Ulster County Environmental Management Council  
33 Shotwell Rd, Woodstock, NY 12498

## Danskammer Energy Center Upgrade

### Ulster County Environmental Management Council Report Submitted Meeting of April 24, 2019

On February 8, 2019, Danskammer Energy, LLC, (Danskammer Energy) filed a Preliminary Scoping Statement (PSS) for a proposal to repower the Danskammer Generating Facility in the Town of Newburgh, Orange County. The existing facility operates as a natural gas fired peaking facility with a capacity of 532 MW. The repowered facility would be a natural gas fired combined cycle facility with a capacity of up to 600 MW and limited provisions to burn ultra-low sulfur diesel fuel as a backup fuel with approximately 5 days of on-site fuel oil storage.

The existing facility is connected to Central Hudson Gas and Electric Corporation's 115 kV transmission system. Danskammer Energy indicates that the repowered facility would interconnect to existing electric transmission infrastructure and will utilize the existing natural gas transmission system for delivery of natural gas.

#### Stakeholder Comments Filed on Preliminary Scoping Statement (PSS)

During the pre-application phase of a major electric generating facility siting case, pursuant to Public Service Law (PSL) Article 10 and related regulations, the project sponsor, Staff of the Department of Public Service, and other interested persons may engage in discussions on any aspect of the PSS and any study or studies made or to be made by the project sponsor to support the project sponsor's application. Comments regarding the Preliminary Scoping Statement were due by March 29, 2019.

Danskammer Energy, LLC's deadline to summarize and respond to all comments is 4:30 P.M. on Friday, April 19, 2019.

#### Intervenor Requests Approved

Pursuant to PSL §163(4), a pre-application intervenor fund of \$200,000 has been established for this proceeding. The purpose of the pre-application intervenor fund is to enable municipal and local parties to better participate in review of the PSS and to participate in the stipulations process by allowing them to defray expenses for expert witnesses, consultants, legal representation, and administrative fees.<sup>1</sup> At an April 3, 2019 meeting, the ALJs confirmed the award of intervenor funds.

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<sup>1</sup> CASE 18-F-0325, "Ruling on Intervenor Funding Request," New York State Board on Electric Generation Siting and the Environment, April 9, 2019

The Town of Newburgh, Dutchess County, and Scenic Hudson, Inc. made individual requests and Scenic Hudson, the City of Newburgh and Riverkeeper made a joint request for intervenor funds. The following amounts were requested and awarded:

- Town of Newburgh receiving an award of \$50,000;
- County of Dutchess receiving an award of \$28,500;
- Scenic Hudson, Inc. receiving an award of \$7,560;
- Scenic Hudson, the City of Newburgh and Riverkeeper receiving a joint award of \$48,500.

### Consultations – Ulster County and Other Agencies

The Article 10 regulations (16 NYCRR § 1000 et seq) require both general and specific consultations with affected agencies, the host municipalities, and adjacent municipalities. Each consultation meeting will include an overview of the proposed Project and the Article 10 review process and will provide Project contact information, identification of where interested parties can obtain more information, and instructions on how to be added to the stakeholder list. Additional topics covered during stakeholder consultations will vary depending on the stakeholder's role and potential impact.

Stakeholder consultation meetings will be documented in the PIP Plan Tracking Report and comments received will be recorded. Meetings held with Ulster County entities and selected agencies as recorded on the March 29, 2019 PIP tracking report include:<sup>2</sup>

Ulster County Executive	2/14/2019
Ulster County Legislature	2/6/2019, 2/25/2019
Town of Marlboro	11/27/2018, 2/6/2019, 3/11/2019, 3/21/2019
Marlboro Central School District	12/17/2018, 2/11/2019, 4/4/2019
Riverkeeper, Scenic Hudson	5/31/2018, 11/8/2018
NRDC	1/17/2019

<sup>2</sup> William Reid CEO, Danskammer Energy LLC, “Bi-monthly Public Involvement Program Plan Tracking Report,” March 29, 2019, Available at <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={687B7800-012B-46F6-8ADC-D0F48F2858DD}>

# Tree and Plaque Honoring Anne Brandt

The Woodstock Environmental Commission planted a tree on Arbor Day with a plaque honoring Anne Brandt, a long serving member of the commission and Woodstock's representative to the Ulster County Environmental Management Council.



Anne E. Brandt 9.11.1939 – 7.12.2018

*A passionate defender of the environment, who served with distinction for 31 years on the Woodstock Environmental Commission.*

Ann was an active member of the Woodstock Environmental Commission (WEC) for 31 years, serving as Chair and Vice Chair, and contributing right up until her passing. During her tenure on the WEC, the Commission was responsible for developing the Woodstock Environmental Quality Review Law and an Aerial Spraying Law, and she was project manager of an EPA grant to delineate the wellhead protection area of the Town as well as the author of the Best Management Practices brochure for the wellhead protection project.

She coordinated the NYCDEP Land Acquisition and Stewardship Program for Woodstock and helped to organize WEC's annual Earth Day exhibits. Ann was a member of the Ulster County's Environmental Management Commission Oversight Committee that updated the County Open Spaces and Parks Plan.

As Region 3 Director of the NYS Association of Conservation Commissions, Ann served as a member of the Board of Directors of that Association. In 2005, Ann received the Margery Sachs Service Award for "Life-Long Environmental Concern and Service."