

**Biopower Working Group Meeting**  
**7/23/2013**  
**401 E. State St. Trenton, NJ**

**Biopower Opportunities in the Wastewater Industry**  
**Richard C. Kunze – OCUA/AEA**

Talking Points:

- Energy/Water Nexus
- 3 – 4% of typical energy use in a municipality is for water and wastewater treatment.
- The Water Resources Utility of the Future. NACWA/WERF/WEF
- Sustainability and Net-Zero WWTP  
Strauss, Austria – posterchild
- Anaerobic Digestion (AD) & RNG  
Existing WWTP in NJ with AD  
Co-digestion with high strength organic waste  
EBMUD – Oakland, California
- Types of CHP (cogeneration) Equipment  
Internal Combustion Engines  
Microturbines  
Fuel Cells
- Enhancements for CHP @ WWTP's  
Gas Conditioning  
Gas Storage  
Incremental Equipment Utilization
- Energy Island/Distributed Generation
- Demand Response  
NJDEP directive limits participation with emergency generators
- Future Concepts  
RNG for vehicle fuel  
Gasification of biosolids and organic waste  
Thermal recovery from liquid stream  
Algae production

Permit Number	Facility Name	Methane Produced	Percentage Recovered / Reused	Percentage Flared	2009 MGD	MMSCF / Year
NJ0020028	Bergen County Utilities Authority-Little Ferry WPCF	Y	32	68	74	176.1
NJ0020427	Caldwell Wastewater Treatment Plant	Y	50	50	3	5.3
NJ0020923	Trenton Sewer Authority	Y	10	90	11	34.7
NJ0021369	Hackettstown MUA Water Pollution Control Plant	Y	57	43	3	4.5
NJ0021601	Carneys Point Township Sewerage Authority	Y	0	100	3	10.5
NJ0022519	Riverside Water Reclamation Authority	Y	50	50	3	5.3
NJ0023361	Willingboro Water Pollution Control Facility	Y	50	50	4	7.0
NJ0023728	Western Monmouth Utilities Authority-Pine Brook Treatment Plant	Y	30	70	5	12.3
NJ0024562	South Monmouth Regional Sewerage Authority	Y	60	40	5	7.0
NJ0024651	Cumberland County Utilities Authority	Y	85	15	3	1.6
NJ0024741	Joint Meeting of Essex and Union Counties	Y	100	0	63	0.0
NJ0024783	Long Branch Sewerage Authority	Y	50	50	3	5.3
NJ0024791	Village of Ridgewood Water Pollution Control Facility	Y	80	20	3	2.1
NJ0024821	Pemberton Twp MUA	Y	50	50	3	5.3
NJ0024872	Township of Neptune Sewerage Authority	Y	50	50	5	8.8
NJ0024902	Hanover Sewerage Authority WWTP	Y	75	25	3	2.6
NJ0024937	Madison-Chatham Joint Meeting, Molitor Water Pollution Control Facility	Y	95	5	3	0.5
NJ0024953	Linden Roselle Sewerage Authority	Y	68	32	11	12.3
NJ0025330	Cedar Grove Township STP	Y	50	50	3	5.3
NJ0025356	Township of Middletown Sewerage Authority	Y	20	80	7	19.6
NJ0025364	Landis Sewerage Authority	Y	90	10	6	2.1
NJ0026301	Hamilton Township Wastewater Utility	Y	50	50	3	5.3
NJ0027961	Township of Berkeley Heights Water Pollution Control Plant	Y	1	99	3	10.4
NJ0029408	OCUA Central Water Pollution Control Facility	Y	86	14	21	10.3
NJ0029475	Borough of Hightstown AWWTP	Y	60	40	3	4.2
NJ0028142	OCUA Northern	Y	90	10	22	7.7
NJ0026018	OCUA Southern	Y	60	40	7	9.8
					TOTAL	375.5