



STAMFORDWPCA

My name is Jeanette Brown and I am the Executive Director of the Stamford Water Pollution Control Authority. I am a registered Professional Engineer in Connecticut, a Board Certified Environmental Engineer and a Class 4 certified wastewater treatment plant operator. I am also an Adjunct Professor of Environmental Engineering at Manhattan College and President of the Water Environment Federation.

I am speaking in support of adding "energy derived from wastewater residuals" to Paragraph 26 in Bill 839. Wastewater Residuals (biosolids), which is a biomass, is defined under 40 CFR Part 503 as wastewater residuals that can be used beneficially. To be classified as biosolids they have been treated to such an extent that they are safe for public use and use on croplands. Biosolids have been used since the 1930's as fertilizer and all of the citrus fruit grown in Florida use biosolids, primarily from the Milwaukee, Wisconsin wastewater treatment plant marketed under the name Millorganite. Millorganite is also sold for residential use in many nurseries throughout the United States, including Connecticut. These biosolids are heat dried and pelletized thus meeting the requirements in 40 CFR 503. The Class A biosolids as defined by 40 CFR 503 is very low in organic pollutants and metals. Class A biosolids are an excellent Class 1 Renewable energy source which has high energy value and very low pollutant levels.

Stamford built a heat drying facility began production in January 2008. It is the first in Connecticut, and the dried biosolids from that facility are being marketed as fertilizer in New York State. The Stamford biosolids are almost identical in characteristics to Millorganite. Although they are a good fertilizer, this use is just an interim plan. Stamford's goal is to use these biosolids in a gasification process as a sustainable, renewable fuel source. Stamford is conducting a research and development project funded by the Department of Energy and Stamford Water Pollution Control Authority. This research is demonstrating, and quantifying the value of gasifying biosolids in the production of synthetic gas (Syngas) and ultimately generating heat and electrical power.

We have successfully proved this concept by converting dried biosolids to Syngas and powering a 50 KW generator and distributing the electricity to the local utility power grid. We also successfully used the gas to generate steam in a 1 megawatt gasifier.

The biosolids produce a high BTU synthetic gas with little or no contaminants. Currently, we are in the process of optimizing the process to improve quantity, quality and efficiency. Furthermore, the Stamford design includes a method which results in no emission of greenhouse gases. We have data from full scale testing which show extremely low levels to no metals or other toxics any of which can be easily removed with current air pollution technology.

Biosolids as a resource is presently on the cutting edge of development world wide. It is very important and critical that the State of Connecticut take a leading step and recognize the potential of biosolids as a sustainable resource and as biomass for gasification. The amount of biosolids produced in the United States could result in 35 to 50 million megawatts of electrical power.

Connecticut has an opportunity to stand at the forefront, and be a leader in a clean renewable energy source. In order for this project to move forward, it is critical that the definition be amended to include wastewater residual (biosolids) biomass for gasification and to be eligible for clean renewable energy funding. I would be please to meet with you and discuss our project and resultant data.