



# CLEAN WATER ACTION

CONNECTICUT

## Testimony of Roger Smith, Campaign Director, Clean Water Action Environment Committee March 16, 2009

Testimony in opposition to Raised S.B. No. 1084

*AN ACT EXPANDING THE DEFINITION OF A CLASS I RENEWABLE ENERGY  
SOURCE TO INCLUDE BIOSLUDGE OR BIOSOLIDS.*

Clean Water Action is an environmental non-profit with 25,000 Connecticut members. We have worked on energy-related issues in Connecticut since 1998, and have worked to support renewable energy at the state level and in towns through the 20% by 2010 clean energy campaign.

Clean Water Action opposes SB 1084 which defines the combustion or gasification of sewage sludge-derived fuel as a renewable energy resource as the bill provides no enforceable prohibition on sludge laden with heavy metals, sludge management is a waste rather than an energy issue, and burning or gasification of sludge results in higher greenhouse gas emissions than the alternatives.

**Firstly, Clean Water Action urges the legislature to protect the integrity of Class I renewable energy sources.** Class I is reserved for the cleanest energy sources, such as solar and wind, with Class II reserved for waste-based technologies like trash incineration, which have significant air emissions and other environmental harms. Allowing energy derived from trash and biosludge/biosolids to qualify as Class I would harm its environmental integrity and potentially undermine the voluntary market for renewable energy.

**Secondly, the Renewable Portfolio Standard (RPS) can only deliver on its goal of creating financial incentives to build more renewable energy if the definitions remain stable.** The more types of energy that qualify for Class I, the less the incentive for any given project, as a glut of supply floods the market. Unfortunately, RPS definitions have been changed by the legislature or DPUC nearly every year. We urge the legislature to keep changes to a minimum and only after conducting a deliberative process with stakeholders.

**Thirdly, incineration of biosludge/biosolids is not a new technology and does not deserve a Class I subsidy.** Connecticut has several sewage sludge incinerators. Their purpose is to address a waste issue by reducing the volume of dried sewage sludge, and are currently operating without subsidy as a "renewable" energy source. Such facilities may actually be net electricity consumers, rather than producers. We ask the committee to continue to

reject sludge incineration as a Class I renewable energy source, rather than let energy policy drive waste policy.

**Forthly, regarding the merits of gasification of biosolids, this newer technology uses heat and pressure to turn a fuel source (wood, trash, coal, or in this case biosolids) into a synthetic gas (primarily hydrogen and carbon monoxide) and then burns the gas, rather than burning the fuel directly. This technology results in lower emissions of pollutants like particulate matter than incineration.**

To understand how this technology works in practice, Clean Water Action spent significant amounts of time reading air permit applications for the Plainfield Renewable Energy plant which intends to gasify construction and demolition wood. **As matter cannot be created or destroyed, the emissions of heavy metals from the plant depend on the level of contamination of the fuel source, which ranged from clean forest wood to arsenic-laden pressure treated lumber.** Clean Water Action supports the gasification of clean forest wood as a renewable resource, but not demolition wood as there are not adequate safeguards to prevent lead-painted wood and pressure treated wood from entering the plant and severe penalties for violations.

**We have the same concerns regarding sewage sludge- while in theory it could be limited to household waste with minimal metals concentrations, spills or contamination from commercial and industrial sources would result in significant amounts of heavy metals like lead, cadmium, mercury, beryllium, and arsenic escaping up the smokestack and entering the local environment.** For these reasons, the CT Coalition for Environmental Justice and Fairfield County Environmental Justice Network have long opposed the City of Stamford's plans to build a sludge gasification facility. We share their concerns.

**Estimation of heavy metals emissions from gasifying biosolids.** Burning or gasifying biosolids concentrates heavy metals in ash, and allows a portion to escape into the environment. While we make every effort to protect our kids from the health risks of lead paint it is outrageous that we are considering subsidizing power plants that will dump lead from sewage back into our air and water.

At a rough estimate of 300,000 metric tons of biosolids per year, and using the below EPA average allowable pollution concentrations for biosolids, total emissions of ash captured by the pollution controls and requiring disposal would be 12 tons of arsenic per year, 12 tons of cadmium, 90 tons of lead and 5 tons of mercury. **These heavy metals are neurotoxins and extremely dangerous to human health in grams, not tons. If the pollution controls are 95% effective (a generous assumption), that would mean more than 1300 lbs of arsenic, 1300 lbs of cadmium, 9900 lbs of lead and 551 lbs of mercury (note: this number seems extremely high) would escape up the smokestack and accumulate in our local**

**environment each and every year.** Without far more stringent restrictions on metals content than the US EPA definitions for biosolids, this is not a clean energy source on par with wind or solar.

Reference: Federal regulations§503.13—Pollutant Concentrations for biosolids

<sup>1</sup>Dry weight basis.

| Pollutant | Monthly average concentration (milligrams per kilogram) or parts per million |
|-----------|--|
| Arsenic   | 41   |
| Cadmium   | 39   |
| Copper    | 1500   |
| Lead      | 300  |
| Mercury   | 17   |
| Nickel    | 420  |
| Selenium  | 100  |
| Zinc      | 2800   |

**Higher global warming emissions**— Incineration of gasification of biosolids results in higher global warming emissions as combusting the synthetic gas produces CO<sub>2</sub> which goes up the smokestack and immediately returns to the atmosphere. Using biosolids as a fertilizer means that some of the carbon could become soil organic matter, which has a far longer timescale for returning to the atmosphere.

Thank you for your consideration,

Roger Smith

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