

Florida Public Service Commission  
c/o Ms. Judy Harlow  
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Thursday, July 17, 2008

RE: July 11, 2008: Undocketed - RPS Implementation/Rulemaking  
Commissioner Workshop

Dear Commissioners,

The following individuals and organizations request that you continue your discovery and thorough investigation of “clean energy alternatives” that will encompass the utilities Renewable Portfolio Standard. We believe that a primary objective should be placing considerable importance on public and environmental health, as well as genuine efforts to move towards a sustainable economy, when weighing the renewable energy alternatives.

Of particular interest and concern to us is the unfortunate continued emphasis by elected officials, businesses, and others, to promote the use of waste to energy/incinerators, biomass, and biofuels energy production as a component of the RPS under development and design.

Disposing of discarded materials in "waste to energy" incinerators depletes resources, negatively impacts community health, and in many cases permanently damages the natural environment. In addition, the U.S. EPA report Solid Waste Management and Greenhouse Gases found that "waste to energy" incineration causes more greenhouse gas emissions than recycling for every material evaluated. Incinerating materials for electricity also wastes three to five times the amount of overall energy that recycling materials conserves.

According to the Institute for Local Self-Reliance (ILSR), an aging incinerator in Detroit Michigan has cost the city over one billion dollars in the past 20 years, polluting the region's air and groundwater in the process, (environmental dangers from acid gasses, dioxin, particulates, lead and mercury). ILSR has estimated that a non-incineration system for Detroit– based on salvaging, processing and remanufacturing materials from the City's waste stream – could create almost 1,700 new jobs and 64 new businesses. Incinerating or landfilling these same materials would result in a mere 40 jobs or less, while destroying discarded materials that are now valuable commodities to industry and agriculture.

Approximately half of the 27 states that currently have implemented RPS do not classify "waste to energy" incineration as a source of renewable energy. We call for Florida to take a stand and not create a public policy that promotes the “incineration” of valuable resources and thus encourage the destructive cycle of extracting raw materials to produce

new products. We argue that Florida should be the state that takes a stand and strongly recommend the PSC require a public policy goal of moving towards “zero waste disposal” and 100% recycling by all consumers and manufacturing entities by 2030 or earlier. Conversely, the PSC should not create a public policy that moves in the very opposite direction by promoting the destruction of valuable resources that pollute the air in traditional trash or biomass incinerators or plasma arc combustors and thereby continue to support over-consumption and the throw away ethic. Such a policy encourages the disastrous paradigm of the ever increasing extraction of raw materials on a finite planet, with all its huge consequences on air pollution, water pollution, solid waste generation, energy use and global warming, even before we get to the impacts of waste disposal itself.

To address climate change, Florida must step up to the challenge and opportunity to develop a renewable energy program that does not diminish resources and negatively impact environmental health.

We further strongly recommend that solar units be required on residential, commercial, government owned buildings and advocate for greater usage of geothermal units.

Florida could be the state that truly steps up to the real challenge of the 21st century and take genuine steps towards a sustainable future. On the other hand, providing incentives and subsidies for the production of biofuels and biomass, with or without the accompanying construction of new incinerators (or refurbishing old ones), or incinerators in disguise (gasifying, pyrolyzing or plasma arc combustors all involve the last step of burning the gases produced by gasifying solid materials) would be totally counterproductive to such an aim.

We have added more on our concerns about I) Biomass, II) Incinerators and III) Biofuel production below.

In conclusion, we have provided for you substantially informative documents and encourage you to down play the hype that is being generated by industry promoting these natural resource consumptive dinosaurs. The best solution is when utilities, industry and the consumers embrace 100% recycling and the concept of zero waste. As suggested in the report, “Stop Trashing the Climate”. <http://www.stoptrashingtheclimate.org/>  
<<http://www.stoptrashingtheclimate.org/>>

Sincerely,

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Ellen Connett, Former Editor, Waste Not, Canton, NY

## **I. BIOMASS:**

Currently there are several biomass and plasma arc incinerators planned for Tallahassee, Gainesville and St. Lucie. A plasma arc incinerator is planned for St. Lucie County, Fl. The proposed incinerator will be the largest of its type in the world and would release dioxin, furans and particle pollution into the environment, would generate only a small amount of energy and would hamper local recycling efforts. The technology of plasma arc incineration has not been proven to be reliable on a large scale. Even the Florida Dept. of Environmental Protection has concerns as discussed in their White Paper.

Our observation regarding the biomass application to the Florida DEP by BG&E's , would not just be limited to wood waste from forests, yards and roadside. The Company has made a case that it should be exempt from key regulations, that it can burn up to 30 tons of municipal solid waste a day, and that it can burn construction and demolition debris, waste tires, and refuse derived fuel.

The Company has filed to be exempt from any Federal incineration or boiler regulations (MACT standards). They are looking to take advantage of a possible loophole in the regulations. So one question is, would you want to live near an incinerator burning 30 tons of municipal solid waste a day (in addition to other harmful materials such as construction and demolition debris, waste tires and rfd) that does not federally regulated by incinerator or boiler MACT standards?

The combustion of CCA treated timber is a major problem in Florida, and results in emissions of dioxins and arsenic, in addition to toxic ash (see article pasted below). One article said that "simple visual sorting is not good enough to catch much more than 90% of the CCA-treated wood." I know of no proven technologies that are functioning commercially that either catch and efficiently separate all CCA-treated wood, or safely incinerate it. CCA in mulch in Florida is a major problem.

Materials like wood from forests, yards and roadside are desperately needed for the health our soil. There are many positive uses for these materials, such as composting which has major climate benefits. These are also materials that are in high demand and offer a strong price on the market. Even if there could be a guarantee that only these materials would ever enter the proposed plant, it would be cost prohibitive and not the best use of the material.

<http://www.uow.edu.au/arts/sts/sbeder/CCAtimber/waste/incineration.html>

Incineration of CCA-treated timber is in fact banned in some states including NSW. EPA Victoria (2003) has raised concerns about horticulturalists who burn waste such as CCA-treated timber and has fined at least one grapegrower in 2003 for this because of the 'significant risk to human health, the environment and the clean green image...' The South

Australian EPA warns that 'Children, pets and farm animals should be excluded from land where CCA ash is present [for example after bushfires]. Animals will want to lick or eat the salty residue and young children, especially those under 5 years, are at high risk from personal contact and ingestion. Animal deaths from ingesting ash have previously been reported on farms in the USA and UK' (SA EPA, 2005).

## **II. No Incentives for Incinerators**

Policies that qualify incinerators—including mass-burn, gasification, pyrolysis, plasma, refuse derived fuel and other incinerator technologies—for renewable energy credits, tax credits, subsidies and other incentives present a renewed threat to environmental and economic justice in U.S. communities.

Incinerators are a toxic technology. Even the most technologically advanced incinerators release hundreds of distinct hazardous byproducts including dioxins, heavy metals, and halogenated organic compounds in the form of toxic air emissions, particulates and ash.

Incinerators are a major contributor to global warming. Even by conservative calculations, typical incinerators emit more greenhouse gas emissions per kilowatt hour of electricity generated than gas-fired power plants. Incinerators also cause far more greenhouse gas emissions than recycling and other more sustainable waste solutions.

Low-income communities and communities of color are disproportionately burdened by incinerator contamination and the global warming consequences of greenhouse gas

emissions.

Incinerators trap communities in a cycle of debt and displace more just, affordable and sustainable waste and energy solutions. Alternatives to incineration such as recycling, reuse and composting provide far more jobs and are much more economically sensible.

Incinerators waste energy, natural resources and the planet. Incinerator contracts require the disposal of the earth's finite resources and encourage the extraction of raw materials to produce new products. When the life cycle of materials is considered, recycling saves far more energy than is generated by incineration and causes less greenhouse gas emissions and waste.

We urge you, as Appointed Public Service Commissioners, prioritize the highest and best re-use of discarded materials and to exclude municipal, medical, hazardous, and construction and demolition waste incineration from qualifying as a source of renewable energy, fuel and/or power in any and all papers, programs, incentives, regulations, legislation and policies.

### III. BIOFUELS:

Business Week, March 1, 2007, Ethanol demands could raise food prices

By LIBBY QUAID, WASHINGTON , Ethanol will devour 50 percent more corn this year, eating into the food industry's share of the crop, the Agriculture Department.

Excerpted from EnergyJustice.net:

Net Energy: More Harm than Good?

- Ethanol Production Using Corn, Switchgrass, and Wood; Biodiesel Production Using Soybean and Sunflower (2005 study by Dr. Pimental and Dr. Patzek)  
Abstract: Energy outputs from ethanol produced using corn, switchgrass, and wood biomass were each less than the respective fossil energy inputs. The same was true for producing biodiesel using soybeans and sunflower, however, the energy cost for producing soybean biodiesel was only slightly negative compared with ethanol production. Findings in terms of energy outputs compared with the energy inputs were:
  - o Ethanol production using corn grain required 29% more fossil energy than the ethanol fuel produced.
  - o Ethanol production using switchgrass required 50% more fossil energy than the ethanol fuel produced.
  - o Ethanol production using wood biomass required 57% more fossil energy than the ethanol fuel produced.
  - o Biodiesel production using soybean required 27% more fossil energy than the biodiesel fuel produced (Note, the energy yield from soy oil per hectare is far lower than the ethanol yield from corn).
  - o Biodiesel production using sunflower required 118% more fossil energy than the biodiesel fuel produced.
- Dr. Tad Patzek, University of California at Berkeley (argues that ethanol represents a net energy loss)

More and more information is made available every day how valuable farm land is being converted from food for people to corn for biofuels .

The letter below continues to acquire individuals and organizations opposed to the Plasma Arc incinerator in St. Lucie County, FL.

7/1/7/08

We, the undersigned, oppose the proposed plasma arc incinerator for St. Lucie County because of related health, economic and environmental concerns.

Plasma arc incineration<sup>i</sup> is an unsafe and unproven technology for the commercial processing of municipal solid waste. Emissions data (which has not been independently verified) gathered from the plasma-arc incinerator in Utashanai, Japan by the company Shimadzu Techno-Research Inc. shows emissions of dioxin<sup>ii</sup>, the most-toxic known man-made substance.<sup>iii</sup> In addition, the Florida Department of Environmental Protection in their *Whitepaper on the Use of Plasma Arc Technology to Treat Municipal Solid Waste* says that there is “considerable uncertainty” about the quality of the syngas and slag produced by plasma arc technology, and dioxins and furans can reform at certain temperatures if chlorine is present.<sup>iv</sup>

Studies show higher levels of cancer<sup>v,vi</sup> and elevated levels of dioxin in the blood of people living near municipal solid waste incinerators when compared to the general population.<sup>vii,viii,ix</sup> There is no safe level of exposure to dioxin.<sup>x</sup> Known health impacts of dioxin include cancer, IQ deficits, disrupted sexual development, birth defects, immune system damage, behavioral disorders, diabetes and altered sex ratios.<sup>xi</sup> As a result, the City of Oakland, California passed a resolution calling for the elimination of dioxin, and listed incinerators as a major source.<sup>xii</sup> Claims that the plasma arc facility “will run cleaner than natural-gas based plants” made by the company Geoplasma<sup>xiii</sup> are not backed by evidence; independently verified emissions data has not been provided to the public for any plasma arc facility commercially processing municipal solid waste.

Given that the facility proposed for St. Lucie County would be more than ten times larger than any other commercial plasma municipal solid waste incinerator in the world, dioxin, furans, mercury and other harmful emissions are of grave concern. If constructed, this facility would be one of the largest incinerators of any kind in the world. We also have serious concerns about the Geoplasma plasma-arc incinerator being sited near the St. Lucie Tropicana orange juice plant. Studies show that high levels of dioxins have been found in food and dairy products produced near incinerators,<sup>xiv,xv</sup> demonstrating that the insidious toxic impacts of incinerators are thus as far-reaching as the shipment of that food to other communities. For the safety of residents of St. Lucie and neighboring counties, we ask that, at a minimum, no proposal be considered until independently verified gaseous, solid and liquid emissions data is provided to the public from an operational commercial plasma facility of a comparable size and waste stream.

In addition, there are also economic dangers with the proposed plasma facility. The Florida Department of Environmental Protection in their *Whitepaper on the Use of Plasma Arc Technology to Treat Municipal Solid Waste* wrote that, “The economics of this technology are not well known”.<sup>xvi</sup> Geoplasma claims that they will pay for 80% of the facility with energy sales. However, there is no evidence that the facility will be able to sell any electricity to the grid. As one article says, “Geoplasma hopes to do better than the Japanese facility [which it is modeled upon], which generates just enough power for internal consumption.”<sup>xvii</sup> The cost of the plasma incinerator would be born by St. Lucie residents in the form of high disposal fees and other taxpayer subsidies.

The plasma system would also destroy valuable materials (more than two-thirds of materials will not come from the neighboring landfill), and obstruct efforts to increase recycling. If the county recycled 50% of its waste stream, based on current market prices for glass, paper, metal, plastic, industrial rubber compounds (including tires) and compost, the materials would be worth \$20 million annually. Many cities and counties already have achieved this level of recycling and composting. Further, St Lucie County would save another \$12.5 million in avoided disposal costs annually. Finally the economy of the county would improve with an additional 500-750 permanent jobs (and an equivalent number of indirect jobs) and dozens of new and expanded small businesses. All of this activity contributes to the local economy's tax base. When looking at the staggering costs of a plasma arc facility, it is important to count the lost opportunity costs from recycling and economic development.<sup>xviii</sup>

The city of Honolulu investigated plasma arc technology and concluded, "After thorough evaluations, including intensive meetings with the proposers to review technical components of their plans, we concluded that utilizing plasma arc/torch would significantly increase the cost of waste disposal for Oahu and would not provide any environmental advantages to justify such cost."<sup>xix</sup>

As more than 130 organizations including Natural Resources Defense Council, Sierra Club, Physicians for Social Responsibility, and Health Care Without Harm have expressed in the *No Incentives for Incinerators* statement, incinerators of all types—including plasma, pyrolysis and gasification—are a detriment to the climate, the economy, and the health of U.S. communities.<sup>xx</sup> To protect health in Florida, we must strengthen waste prevention, recycling and composting programs, and put an end the harmful practice of incineration.

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<sup>i</sup> Plasma Arc is defined as incineration by the U.S. Environmental Protection Agency. U.S. Environmental Protection Agency, Title 40: Protection of Environment, Hazardous Waste Management System: General, subpart B—definitions, 260.10, current as of February 5, 2008.

<sup>ii</sup> Dioxin Measurement Results Report, April 6, 2006, Echo Valley Utashanai Inc.

<sup>iii</sup> In, "Paternal concentrations of dioxin and sex ratio of offspring" in the *Lancet* 2000; 355: 1858-63, 27 May 2000

<sup>iv</sup> Florida Department of Environmental Protection, *Whitepaper on the Use of Plasma Arc Technology to Treat Municipal Solid Waste*, September 14, 2007

<sup>v</sup> Ends Europe Daily *Study reignites French incinerator health row*, Found at

<http://www.endseuropedaily.com/articles/index.cfm?action=article&ref=22174&searchtext=incinerator%2Bcancer&searchtype=All> (browsed on February 8, 2008)

<sup>vi</sup> P. Elliott and others, "Cancer incidence near municipal solid waste incinerators in Great Britain," *BRITISH JOURNAL OF CANCER* Vol. 73 (1996), pgs. 702-710.

<sup>vii</sup> Ends Europe Daily *Study reignites French incinerator health row*, Found at

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<sup>viii</sup> P. Elliott and others, "Cancer incidence near municipal solid waste incinerators in Great Britain," *BRITISH JOURNAL OF CANCER* Vol. 73 (1996), pgs. 702-710.

<sup>ix</sup> Leem et al., 2006. Risk Factors Affecting Blood PCDDs and PCDFs in Residents Living near an Industrial Incinerator in Korea. *Arch. Environ. Contam. Toxicol.* 51:478-484 .

<sup>x</sup> No Evidence of Dioxin Cancer Threshold, David Mackie, 1 Junfeng Liu, 1 Yeong-Shang Loh, and Valerie Thomas, Available online at: <http://www.ehponline.org/docs/2003/5730/abstract.html>

<sup>xi</sup> Lester, Stephen, *The American People's Dioxin Report*, Center for Health and Environmental Justice, 1999. Available online at <http://www.besafenet.com/report.html#Executive%20Summary>

<sup>xii</sup> Text of the Oakland City Council Resolution on Dioxin. Available online at: <http://www.greenaction.org/pueblo/oaklanddioxinres.shtml>

<sup>xiii</sup> Florida County to Generate Energy By Vaporizing Solid Waste, WasteAge, September 13, 2006. Available online at <http://wasteage.com/news/Geoplasma>

<sup>xiv</sup> Ellen and Paul Connett, *France: Dioxin contamination from trash incinerators*, WASTE NOT #423 (March 1998).

<sup>xv</sup> Hwong-wen Ma, Yen-Ling Lai and Chang-Chuan Chan, *Transfer of dioxin risk between nine major municipal waste incinerators in Taiwan Environment International*, Volume 28, Issues 1-2, April 2002, Pages 103-110

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<sup>xvi</sup> Florida Department of Environmental Protection, Whitepaper on the Use of Plasma Arc Technology to Treat Municipal Solid Waste, September 14, 2007

<sup>xvii</sup> Discover Magazine, The Ultimate Garbage Disposal, McNicol, Tony, May 15, 2007. Available online at: <http://discovermagazine.com/2007/may/the-ultimate-garbage-disposal>

<sup>xviii</sup> Assumptions: county has 400,000 people. Total commercial and residential municipal waste is 500,000 tons per year. Current disposal fee (not collection, just tipping and hauling to disposal site) is \$50 per ton. Note these value assumptions are very conservative.

<sup>xix</sup> City to Brief Council on Plasma Arc Recommendations for Landfill Reduction, March 30, 2004. Available online at: <http://www.co.honolulu.hi.us/refs/csd/publiccom/honnews04/plasmaarcrecommendations.htm>

<sup>xx</sup> No Incentives for Incinerators Sign-on Statement, 2007, available online at: <http://noburn.live.radicaldesigns.org/article.php?id=247>

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Taiwan Watch Institute: TWI is an environmental organization which aims to engage in  
monitoring environmental and ecological issues, as well as related public policies, and  
unite with the general public of Taiwan to care for its environment, with the ultimate aim  
of achieving sustainability.

Liz Benneian

President, Oakvillegreen Conservation Association  
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Jeffrey Morris, Ph.D.-Economics  
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Zoilo Lopez, M.D. member of the Board of Directors and active member of the Health  
and Environmental Group of The Puerto Rico College of Physicians with 9,200 members.  
We are against the building of a Massive Plasma Arc Incinerator in St. Lucie County.

David Wallinga, MD  
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Health Care Without Harm (for identification purposes only)

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## Biofuels - facts and fiction

Mark Anslow separates the wheat from the chaff in this February 19th issue of The Ecologist.

[http://www.theecologist.org/archive\\_detail.asp?content\\_id=755](http://www.theecologist.org/archive_detail.asp?content_id=755)

This excerpt from the Anslow article is on biorefineries ~

A bio-refinery is an extraordinarily wasteful facility. For every litre of bioethanol produced in a modern refinery, 13 litres of waste water are generated. This waste water contains dead yeast and small amounts of ethanol, and has what is known as a Biological Oxygen Demand (BOD) – which means that the effluent competes with various other organisms in the water for available oxygen.

If effluent with a BOD is discharged into a watercourse, microorganisms in the water use oxygen in the water to break down, or oxidise, the pollutants, thus making the oxygen less available for other species. In extreme cases, fish and other aquatic organisms can suffocate from lack of oxygen.

The BOD of raw sewage is around 600mg per litre; that of bio-refinery waste water can be between 18,000 and 37,000mg per litre.(35) This must be treated before it can leave the refinery, which requires an energy input of around 69,000 kilocalories, roughly equivalent to 306.7 cu ft of natural gas per 1,000 litres of ethanol produced.

In sugarcane ethanol plants, which are particularly common in Brazil, 12 cu ft of a thick, dark red, acid substance called 'vinasse' is left behind for every cubic foot of ethanol that has been produced.(36) It is piped from the refinery to settlement ponds, where it is allowed to cool. If vinasse is left in the pools, anaerobic breakdown will lead to the production of methane, a greenhouse gas.

Some refinery operators have chosen to dilute vinasse at a ratio of up to 1:400 with water for use as a fertiliser on the sugarcane plantations. But it is so potent that the soil has to be carefully monitored to make sure that plants are not scorched or waterways polluted. Some farmers have used vinasse as a 'binding agent' on gravel drives, only to find that it corrodes the underside of vehicles that frequently drive over it.(37)

Ethanol refineries also produce significant amounts of nitrous oxides (a greenhouse gas more than 300 times more potent than CO<sup>2</sup>), carbon monoxide and VOCs (also linked to the destruction of the ozone layer and damage to human health). Their emissions are so high that in March 2006, the Environmental Protection Agency in the USA was forced under political pressure from the biofuels lobby(38) to propose raising the threshold for facilities

considered to be 'minor source of emissions' from 100 tons per year to 250 tons per year.(39)

Mark Anslow is a reporter for The Ecologist.