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Global Alliance for Incinerator Alternatives
Global Anti-Incinerator Alliance

California Energy Commission
Dockets Office, MS-4
Re: Docket No. 03-RPS-1078
and
Docket No. 02-REN-1038
RPS Proceeding
1516 Ninth Street
Sacramento, CA 95814-5512
Also submitted by email to: docket@energy.state.ca.us

Re: Comments regarding MSW, RPS Proceeding

Dear California Energy Commission,

Thank you for the opportunity to provide comments on the proposed changes to the RPS Eligibility Guidebook and the Overall Program Guidebook for the Renewable Energy Program. The following comments address two proposed changes in the RPS Eligibility Guidebook, respond to a question raised by CEC staff during the August 30, 2010 staff workshop, and raise concerns overall about inclusion of incineration, landfill gas, and biomass in the RPS.

Recommending removal of proposed changes in the RPS Eligibility Guidebook related to Solid Waste Conversion Facilities, page 28

The Guidebook currently states that a MSW "conversion facility" is eligible for the RPS if the facility meets requirements including that the facility:

> "uses a two-step process to create energy whereby in the first step (gasification conversion) a noncombustion thermal process that consumes no excess oxygen is used to convert MSW into a clean burning gaseous or liquid fuel, and then in the second step this clean burning fuel is used to generate electricity,"

It is the two-step design of these processes that causes the European Union to consider such facilities incineration. This two-step design is also why these facilities can be described as "staged incineration".

However, the proposed amended language on page 28 of the RPS Eligibility Guidebook would likely create a loophole allowing emissions generated during the energy generation phase to avoid meeting the strict and necessary emissions controls required of these staged incinerators.

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The proposed new language states:

> The MSW conversion process and the electric generation process may take place on the same site or at separate locations. If the two processes occur at different sites, the delivery of the MSW conversion gas must comply with the same delivery rules as presented in Subsection 2: Biogas.

This amendment to the Guidebook could allow the energy-production phase of the MSW gasification process to avoid being subject to the emissions requirements for MSW conversion facilities that are required by the state of California. As is explained on page 28 of the RPS Eligibility Guidebook, such facilities are specifically required to produce "no discharges of air contaminants or emissions, including greenhouse gases", "no discharges to surface or groundwaters of the state", and "no hazardous wastes", among other requirements.

If the entire second phase of the process is not required to meet these eligibility requirements, the requirements lose their intended role of preventing harmful emissions at the point of combustion, ie in the energy generation phase. We do not discount the potential for emissions in the first phase as a result of accidents, however, as history has shown at such facilities overseas.[1]

In order to ensure that such safeguards are maintained under the proposed RPS requirements, we strongly discourage the CEC from allowing any sort of separation of the two phases of what CEC calls "Solid Waste Conversion Facilities." Furthermore, we urge CEC to not assume that the gases created during the first step will be "clean burning". Gasification incinerators have a similar emissions profile as mass burn incinerators, and may release dioxins, heavy metals, and other hazardous pollutants, as well as carbon dioxide.[2,3]

Recommending removal of changes in the RPS Eligibility Guidebook related to MSW Conversion Facilities Located Outside California, page 55

As described above, California has mandated strong and necessary regulations for emissions and releases from "Solid Waste Conversion Facilities," and unfortunately these levels of protection are not yet in place in other states. We are concerned that the strength of these standards could be weakened without adequate enforcement from California agencies. Therefore we recommend that facilities outside California not be eligible for the RPS.

Regarding the question of biomass and MSW posed at the staff workshop

CEC has made the right decision in the past to keep MSW separate from biomass. From climate, energy, public health, economic and jobs creation perspectives, it would be a mistake for MSW

[1] For examples, please see *An Industry Blowing Smoke*, GAIA, 2008, pp. 12 and 14. www.no-burn.org/blowingsmoke

[2] Tellus Institute, *Assessment of Materials Management Options for the Massachusetts Solid Waste Master Plan Review,* commissioned by the Massachusetts Department of Environmental Protection, 2008, p. 27.

[3] For other information on emissions, please see *An Industry Blowing Smoke*, GAIA, 2008, pp. 10-12. www.no-burn.org/blowingsmoke

to now be considered biomass. While a portion of all MSW is organic waste, much of the remaining materials would have toxic components, which are the last things that one would want to burn in an incinerator, much less consider "renewable". Once all recyclables and compostables are removed, what is left is a combination of unrecyclable plastics, products containing unknown and heterogeneous components, and other materials that vary so greatly it is impossible to accurately gauge the content of the waste, much less predict emissions when these mixed wastes are burned. Finding solutions for waste that remains (after removal of all recyclables and compostables) have become a key issue in the California legislature as cities have joined together to call for Extended Producer Responsibility, especially for hard-to-recycle and toxic products.[4]

Furthermore, existing biomass incinerators do not have adequate or appropriate air pollution mitigation technologies to handle these waste streams.

Regarding biomass and the RPS

Similar to waste incineration, biomass incineration is amongst the most carbon-intensive forms of energy generation. A scientifically credible renewable portfolio standard would serve to support building, not burning, existing biogenic carbon sources. Alongside global scientific consensus on human-induced climate change, we now know that existing forests, natural ecosystems and soils are so degraded that their capacity to absorb carbon is greatly diminished. A comprehensive climate strategy would seek to restore ecosystems to increase the sequestration capacity of biogenic carbon, not further degrade these resources. Just as with fossil fuels, we need to create pathways away from the use of such biomass carbon for energy.

In fact, the host of problems associated with treating biomass as a renewable resource extends well past climate stabilization and into the realms of ecosystem integrity, agricultural biodiversity, food security, toxic pollutants, community, and worker health impacts, all areas where the RPS should serve to minimize negative impacts from energy production. Given the recent decision by Massachusetts legislators to not allow renewable energy credits for biomass, which is in keeping with current science, we further recommend that biomass be excluded as a renewable energy resource within the RPS.

Regarding MSW "conversion," incineration, and landfill gas to energy in the RPS

In addition to hazardous pollutants, incinerators emit over 25 percent more carbon dioxide per unit of electricity (2988 lbs/MWh) than coal-fired power plants (2249 lbs/MWh), according to the EPA.[5] Burning MSW is also an inefficient way to produce energy, with only 19-27 percent efficiency, and wastes the embodied energy in the materials being burned.[6]

Like incinerators, landfills cause adverse impacts to U.S. communities. Even the most durable landfills are not guaranteed to protect us against toxic runoff into groundwater and soils.

[4] See California Product Stewardship Council, www.calpsc.org
[5] US EPA, http://www.epa.gov/cleanenergy/energy-and-you/affect/air-emissions.html
[6] Fitchner Consulting Engineers Limited, *The Viability of Advanced Thermal Treatment in the UK*, 2004, p. 4.

Landfills are a leading man-made contributor of methane emissions in the U.S.[7] Methane does greater global warming damage than CO_2 in the short term -72 times more over a 20-year period. Methane from landfills should be avoided by composting organic wastes (especially food waste) instead of dumping them in landfills.

According to the Environmental Protection Agency, "waste to energy" incineration and landfills contribute far higher levels of lifecycle greenhouse gas emissions and overall energy use than source reduction, reuse and recycling of the same materials.[8] EPA figures indicate that diverting one metric ton of organic materials from landfills would avoid 400% as much emission as from landfill gas to energy production. Hence, we recommend that MSW incineration (including gasification, pyrolysis and plasma) and landfill gas to energy **not** qualify as renewable energy within the California RPS.

Conclusion

We are very concerned that any technologies that involve burning or burying MSW would undermine waste prevention, recycling and composting programs. From an energy perspective waste prevention, recycling and composting are vital for GHG reduction and energy conservation.

A zero waste approach is one of the fastest, cheapest and most effective strategies we can use to protect the climate and the environment. Significantly decreasing waste disposal in both landfills and incinerators will reduce greenhouse gases equivalent to closing one-fifth of US coal-fired power plants.[9] This is comparable to benefits that would be gained through vehicle fuel efficiency. Recycling is so important that the Air Resources Board and CalRecycle are working on mandatory commercial recycling requirements for every business in the state to help meet California's GHG reduction goals.

Furthermore, zero waste approaches generate far more jobs than incineration using any technology, and finally, from a public health perspective, a zero waste approach will greatly reduce harmful air emissions from the various incineration technologies.

I hope you are receptive to these recommendations and are available to discuss our comments. I can be reached at 510-883-9490 ext 103 and at monica@no-burn.org.

Sincerely,

Monica Wilson
GAIA U.S. and Canada Program Director

[7] U.S. Environmental Protection Agency. "Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2005," April, 2007, 8-1.

[8] U.S. Environmental Protection Agency. "Solid Waste Management and Greenhouse Gases, A Life-Cycle Assessment of Emissions and Sinks 3rd edition," September, 2006

[9] ILSR, Stop Trashing the Climate, 2008, p. 7. www.stoptrashingtheclimate.org