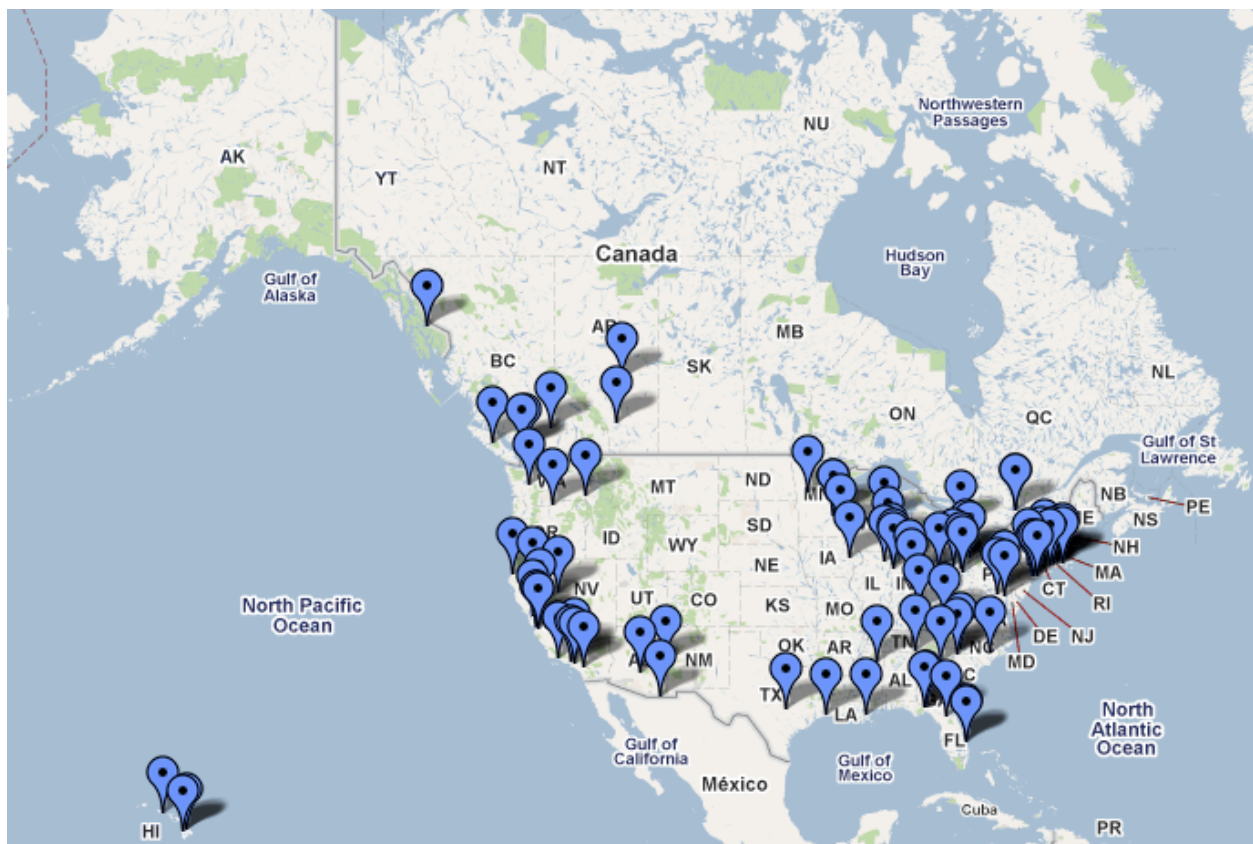




Not Renewable, Barely Energy: The False Promise of “Waste-to-Energy” Incineration and the Threat it Poses to Real Climate and Energy Solutions

Global Alliance for Incinerator Alternatives (GAIA), April 2011

The “Waste-to-Energy” (WTE) threat: While members of GAIA’s U.S. & Canada network have prevented any new waste-to-energy incinerator proposals from coming on board as commercial facilities for municipal solid waste management over the last 13 years, **this “junk energy” industry has increased its efforts to establish incineration as a viable energy option, introducing over 100 new incinerator proposals in recent years and underwriting greatly intensified public relations and lobbying schemes.** While we have defeated a significant number of proposals outright, many more are simply stalled or still in play. The handful of existing WTE incinerator companies (operating 86 facilities in the U.S.) continue to promote traditional mass-burn incinerators and *over 200 new technology vendors* have emerged to lobby for public subsidies and incentives for staged incineration such as gasification, pyrolysis and plasma arc. WTE incinerator proposals are springing up across the U.S. and Canada with increasing frequency.



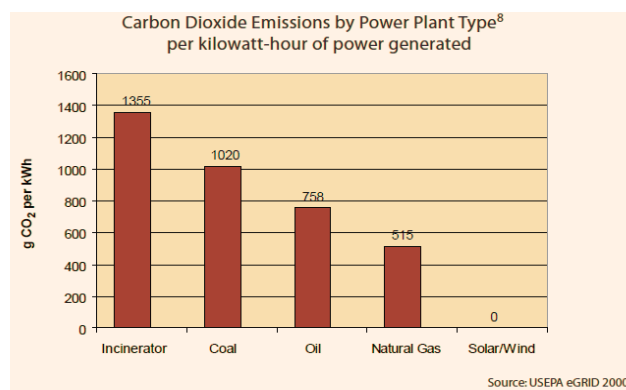
Map illustrating **proposed** waste-to-energy, biomass, and toxics incinerators in the U.S. & Canada in recent years.

We are currently supporting active struggles against incinerators in more than a dozen states and two Canadian provinces. **The struggle against waste-to-energy incineration as a false renewable energy and climate solution has critical similarities and connections to the more widely known struggle against coal:**

- While the problem is global and there are opportunities for policy work, **the frontline struggles are overwhelmingly local**—as communities work to shut down existing burners and prevent new ones.
- Communities are pitted against a **massive and well-funded industry that seeks to minimize controversy and deny its harmful health, ecosystem, and climate effects.**
- Despite unequal access to resources, **empowered local communities are consistently succeeding** in turning back waste-to-energy proposals, even as efforts to achieve more sweeping policy solutions on renewable energy become entangled in Congressional gridlock.
- Like coal—which relies on the environmentally problematic mining industry for extraction, even before it is used to generate dirty energy—**waste-to-energy is also problematic from the source.** It relies on the environmentally unsustainable generation of “garbage”—the systemic failure to reduce, reuse, and recycle.
- Many communities face both coal *and* WTE incinerator proposals—and supporting local movement building against one often helps strengthen organizing capacity against the other.

The future of waste-to-energy incineration matters enormously for real renewable energy solutions. Waste-to-energy incineration—including new technologies such as gasification, pyrolysis, and plasma arc technologies—is dirty, expensive, and inefficient. In short, a WTE incinerator costs *twice as much* to build and operate as a coal power plant, while producing considerably *less electricity* and considerably *more CO₂*.

- **All incinerators—even the new waste-to-energy types currently touted—produce a variety of toxic discharges to the air, water, and ground that poison our environment, bodies, and food.** In October 2010, for example, environmental justice groups in New Jersey won a legal settlement against Covanta after suing the company for hundreds of violations of the Clean Air Act at its Newark incinerator. In addition to air and water emissions, incinerators create toxic ash or slag that must then be landfilled. This ash contains heavy metals, dioxins, and other pollutants, making it too toxic to reuse, although industry often tries to do so. Waste workers and nearby communities bear the brunt of this toxic pollution.
- **Incinerators emit over 25% more carbon dioxide per unit of electricity than coal-fired power plants and emit indirect greenhouse gases.** Yet over 90% of what is currently disposed in landfills and incinerators is readily recyclable or compostable. In fact, implementing a comprehensive national reuse, recycling, and composting program would cut greenhouse gas emissions equivalent to shutting down nearly one-quarter of the nation’s coal-fired power plants.



- **Incinerators have a high financial cost, and city budgets often suffer from burdensome incinerator contracts and debt loads.** For example, Harrisburg, PA is in the national media as it faces bankruptcy in part due to \$308 million in debt tied to its incinerator, which is projected to lose tens of millions more in the next five years. The Detroit, MI incinerator—among the world’s largest—cost the city over \$1.2 billion in construction, upgrade, and operating expenses.

- The U.S. Energy Information Administration Outlook for 2010 noted that **the capital costs** associated with generating electricity through waste-to-energy incineration of municipal solid waste are **nearly twice that of coal and more than 50% higher than nuclear energy**; the **operations and maintenance costs** are **more than 10 times those of coal and more than 4 times those of nuclear energy**. **WTE incineration has the highest capital costs and fixed operating and management costs per kilowatt, according to this research.**

Technology/Fuel	Nominal Capacity (kW)	Capital Cost (\$/kW)	Fixed Operating & Maintenance (\$/kW-yr)	Variable Operating & Maintenance (\$/MWh)
Advanced Pulverized Coal	650,000	3,167	35.97	4.25
Advanced Pulverized Coal with Carbon Capture and Sequestration	650,000	5,099	76.62	9.05
Advanced Nuclear/Uranium	2,236,000	5,339	88.75	2.04
Municipal Solid Waste Incineration	50,000	8,232	373.76	8.33
Geothermal – Dual Flash	50,000	5,578	84.27	9.64
Photovoltaic/Solar	150,000	4,755	16.70	0
Onshore Wind	100,000	2,438	28.07	0

Excerpted from Table 2-5 on page 2-10 of Updated Capital Cost Estimates for Electricity Generation Plants (November 2010), U.S. Energy Administration. (See: www.eia.gov/oiaf/beck_plantcosts/?src=email.)

- **While a key aspect of WTE’s appeal is the creation of energy, the energy-generation claims of the new technology are largely unproven.** For example, in October 2010 it was reported that a £20 million waste-to-energy plant in Dumfries, Scotland has failed to produce *any* energy for the grid more than a year after it opened. In an ongoing court challenge in Mauritius, incinerator proponents were forced in 2010 to admit that their projections of energy to be produced from the proposed facility were overestimated.
- **Reducing waste and increasing recycling and composting is the fastest, cheapest, most effective way to address climate change**—far better than building an energy infrastructure dependent on waste.

Despite this dismal data, the WTE lobby has effectively lobbied for access to significant renewable energy subsidies and incentives. WTE incineration is included in Renewable Portfolio Standards in a number of states, and already this year we have identified bills in Illinois and Maryland pushing for such inclusion at the state level. The **only reason** that the industry has not been able to take massive advantage of these subsidies and incentives is that local communities and statewide coalitions have been holding the line, preventing the development of new WTE incinerators and the expansion of existing ones. **Yet if the WTE industry succeeds in breaking through by establishing new incinerators that can use these subsidies and incentives, the industry—because of the costliness of initial capital investments—has the potential to siphon massive financial resources away from real renewable energy projects.** As part of George Soros’ \$1 billion promised investment in clean energy, for example, he originally invested heavily in the Covanta incinerator corporation in 2009. Now, after he divested a large percentage of these stocks in late 2010, Soros Fund Management has led a \$140 million equity financing package for the

gasification incinerator company Plasco. Given the involvement of investors like Soros, and of figures like actor John O’Hurley (formerly of *Seinfeld* and *Family Feud*, now of Energy-Inc.), new WTE incinerators could also capture the media and public awareness and imagination, *distracting from real solutions*. Moreover, if truly renewable energy sources become associated with incineration, public commitment to renewable energy could be negatively affected.

About GAIA and our response: Established in 2000, GAIA is a worldwide alliance of more than 650 grassroots organizations and individuals in more than 90 countries, whose ultimate vision is a just, toxic-free world without incineration. GAIA’s two-part strategy, which focuses on both stopping unsustainable practices and advancing solutions, is reflected in our dual name: the *Global Alliance for Incinerator Alternatives* and *Global Anti-Incinerator Alliance*. In the U.S., GAIA is currently a sponsored project of the Ecology Center in Berkeley, CA, although we are working to secure our own 501(c)(3) status in 2011. GAIA is also legally registered in the Philippines, where our Asia Regional Coordination office is based.

GAIA’s members have agreed on mission and vision statement that recognizes that our planet’s finite resources, fragile biosphere and the health of people and other living beings are endangered by polluting and inefficient production practices and health-threatening disposal methods. Because of this, we oppose incinerators, landfills, and other end-of-pipe interventions. Our goal is clean production and the creation of a closed-loop, materials-efficient economy where all products are reused, repaired or recycled.

In our first decade, GAIA members and our allies have defeated more than 150 existing and proposed incinerators in 25 countries (including dozens in the U.S.). GAIA has also worked to offer real alternatives to waste incineration. Our work has helped challenge the thinking that considers waste as a mere technical and downstream problem to one that understands waste problems as part of a larger web of inequity, overconsumption, toxic and unsustainable production, and weak democracy.

GAIA’s U.S. and Canadian work evolved into a separate program area in 2006, in response to aggressive expansion attempts by the incinerator industry in the guise of “renewable energy” through gasification, pyrolysis, and plasma arc technologies—technologies that, at bottom, are still just incineration. With so many communities facing new proposals to burn garbage in new ways, and with the tremendous potential of more sustainable waste strategies, GAIA has significantly expanded our U.S. and Canadian network, which now includes approximately 200 members (individuals and organizations). **This network has been extremely successful in thwarting strong industry lobbying efforts to introduce dozens of incinerator proposals in the past several years.** We have also coordinated two major networking and skill-sharing meetings for activists from across the country, and helped to coordinate a mass mobilization against the Detroit incinerator as the closing action of the 2010 U.S. Social Forum.

GAIA’s support is critical to challenging local anti-incinerator campaigns. Despite the often unequal resources in these struggles, community-based grassroots organizing has repeatedly overcome corporate blandishments and government confusion or collusion. Yet it is important to note that most of these community groups are volunteer-run, and this is where GAIA’s research, coordination and community support efforts are so critical to the larger climate movement. Where hundreds of millions of dollars invested in DC policy campaigns have failed to procure federal climate legislation, GAIA and its allies have effectively intervened in local and state policy and permitting processes, while supporting community-based activists in forcing local decision-makers to serve the public interest. The multiplication of such widespread grassroots success will be key to building an empowered nation-wide movement that eventually forces the federal government to take the urgent climate action required in these times.

To challenge incinerator company claims, community members need access to comprehensible technical information about chemical processes, emissions data, energy outputs, comparable projects in other communities, and financing arrangements. They need to know what kinds of questions to ask, and often

need access to expert advice and testimony. They also need information about alternatives that can be proposed in place of incineration, and in some cases may need campaign development advice and technical assistance, including media training and support, public education materials, and other help.

Strategies for Change 2011-2012

GAIA is seeking support for three inter-related and strategic approaches that confront these challenges to real environmental health, justice, and climate solutions:

1. Support for Frontline Communities: GAIA seeks to sustain and expand our ability to provide critical resources to frontline communities, and to connect local leaders who are challenging incinerators to one another through the U.S. & Canada Stop Incinerators Network. This strategy has a strong history of victories – the credit for which is due to, and shared by, our members and network allies. Expanding network resources for regional organizing and trans-local campaigns is the natural next step in fighting new state-level incineration subsidies and building public understanding for truly environmentally sound and community-beneficial energy and waste alternatives.

Since local anti-incinerator struggles tend to unfold over an extensive period of time, GAIA also needs to sustain and expand existing staff capacity for responsive work, while maintaining proactive efforts to produce publications and monitor waste industry moves, legislation, and projects.

In recent years, GAIA has invested in building relationships and alignment with allied U.S. grassroots groups and their networks that are committed to building community power to shut down and prevent the expansion of major climate polluters, while developing resilient communities that can implement local solutions. Specifically, we have helped convene the U.S. Climate Justice Alignment Process with our friends from Indigenous Environmental Network, Communities for a Better Environment, Asia Pacific Environmental Network, Little Village Environmental Justice Organization, WEACT for Environmental Justice, Movement Generation Justice & Ecology Project and other members of the Grassroots Global Justice Alliance and the Environmental Justice Leadership Forum. At the 2010 U.S. Social Forum, we co-organized the Eco-Justice Peoples Movement Assembly (http://wiki.ussf2010.org/wiki/EcoJustice_PMA) as well as the closing day action at the Detroit Incinerator where our allied movement partners committed their support to Detroit's community fight against the burner.

Through these networks of allied movements, we see opportunities to dramatically strengthen the capacity of frontline communities to resist a range of climate polluters and false corporate solutions, while formulating just transition pathways towards zero waste, community food security, public transportation, and local clean energy. We see our successful, trans-local network strategy for fighting incinerators as one that can be effectively replicated for use in any number of climate sector fights—from coal power to oil refineries to biomass and other emerging false technologies.

2. Communications and Media Campaigning: As the junk energy industry ramps up its greenwashing and public relations efforts, it is critical that we launch a more unified communications strategy as a network. Within the anti-incinerator movement in the US and Canada, there are neither designated resources nor staffing tasked with coordinating media work, although many contribute freely of their time and expertise. We seek to build communications and media capacity in order to reach out to mainstream journalists and bring together a rapidly expanding array of individual approaches—list serves, guest articles, blogs, twitter, and web sites—and to help leverage the multiplication power of social media. Media training for local activists is also critical.

3. Partnerships with Organized Labor to Promote Zero Waste and Strengthen Livelihoods:

In addition to our ongoing work supporting communities that are fighting incinerators, we are also engaged in *Recycling Works!*, a national partnership with the International Brotherhood of Teamsters that



is designed to promote increased recycling, reduce greenhouse gas emissions, and create quality green jobs in the waste sector. The partnership is working to shift subsidies away from incineration and landfills, and build federal support for strong recycling and composting economy. *Recycling Works!* furthers a program of research, state and federal advocacy, and local model city projects to dramatically increase recycling—starting in Boston. This partnership brings critical labor allies into anti-incinerator and zero waste struggles where their support is urgently needed.

In coming months, we will release *More Jobs, Less Pollution: Growing the Recycling Economy in the U.S.*, which offers a compelling case for increasing our national recycling rate to 75% by 2030. We project that over 1.5 million jobs would be created in recycling and recycling-reliant industries if our recommendations are followed. We also project that the avoided greenhouse gas emissions with 75% diversion would be more than two times those of business as usual. As part of raising the bar for the recycling industry, we also expect to release our worker health and safety report in 2011, and are coordinating with the Teamsters' Safety and Health Department to secure a meeting with OSHA to highlight the need for regulatory reform.

Recognizing that recent election results are likely to exacerbate Congressional gridlock, we will pursue a funnel strategy focuses on administrative advocacy with key government departments, including the EPA, the Department of Labor, the Department of Commerce, and potentially the Department of Energy. We will explore how our findings might influence any legislation that does emerge in the climate, jobs, and energy arenas. We are also working with unions to support key recycling policy work at the state level in California, Massachusetts, and Wisconsin, and to fight inclusion of incineration in renewable portfolio standards in Maryland and California, at the moment. In addition, we are collaborating with unions to create and expand training programs workers in industries related to recycling,

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